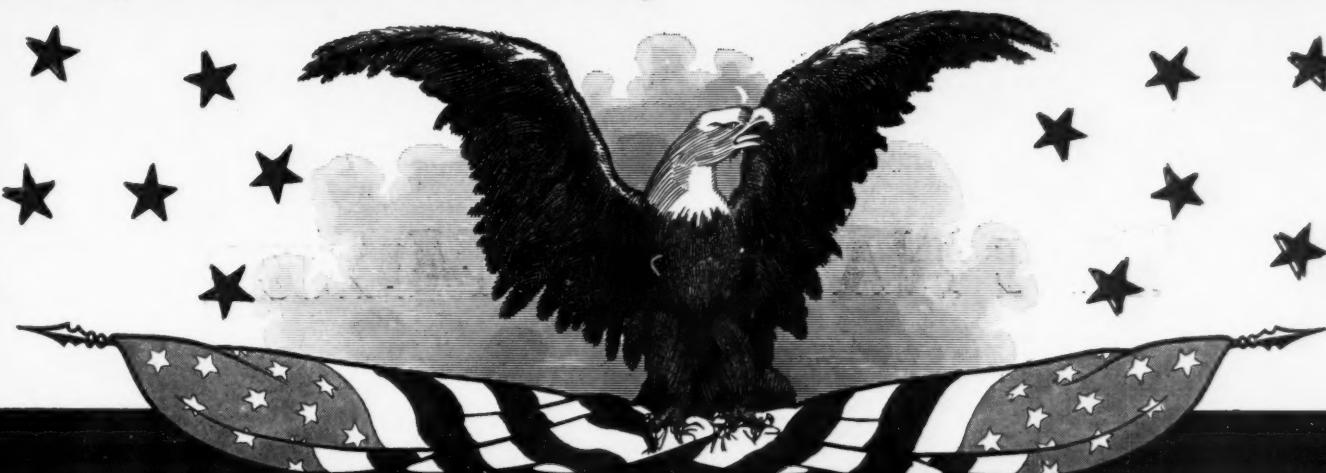


JANUARY 1915

AMERICAN CARPENTER AND BUILDER



THE WORLD'S GREATEST BUILDING PAPER

Broader Knowledge—Better Business

For Carpenters and Contractors

You can't do an up-to-date business with behind-the-times knowledge. And in some businesses progress is so swift that last year's knowledge is mossy with age. That is particularly true of the concrete industry, its equipment, methods and materials. Revise your stock of knowledge! Get fresh ideas, a new inspiration to improvement in business, at the



Eighth Chicago Cement Show

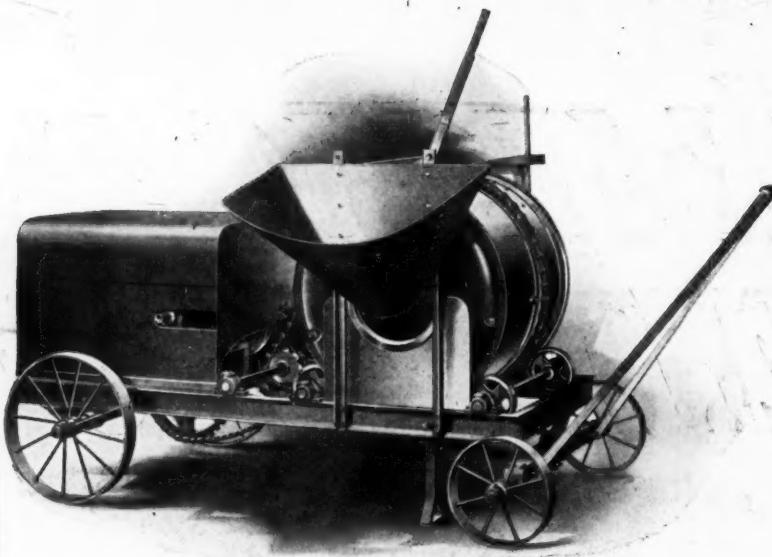
COLISEUM

FEBRUARY 10 to 17, 1915

Here you not only will learn the latest and best in machinery, aggregates, engines, mixers, reinforcement, forms, block machines, tools and contractors' equipment but you will also derive from contact with your fellow workers a stimulus to better and more profitable effort. Your business plans for the year are incomplete if they do not include a visit to the Chicago Cement Show! Conventions of many allied organizations. Band concerts every afternoon and evening.

Cement Products Exhibition Co., 208 South LaSalle St., Chicago

drive C C C



See this Mixer
at the Chicago
Cement Show

THE NATIONAL MIXER

The MIXER that is bound to win its way as the most popular machine at the most popular price.

THIS MIXER at its price is made possible only by its manufacture on an extremely large scale.

Very Lowest in Price—Highest in Quality

Sold on ten days' trial.

See this Mixer at the Chicago Cement Show.

Compare these Specifications with all Mixers made

Drum—Capacity, 5 cubic feet unmixed material (34"x32"). Semi-steel Cast Heads, Steel Center, Steel Blades, raised off drum.

Power—4-H. P. National Engine—standard equipment. Novo Engine furnished, if wanted.

Drive—Special Chain through National Clutches.

Wheels—Steel 24"x16" on 1½" Steel Axles.

Hopper—Standard Charging Batch and Side Loader.

Traction—On Rear Wheels, controlled by Jaw and National Clutches.

Steel Construction throughout; etc., etc.

See Complete Specifications in Booklet.

BUY direct from us or through your hardware or supply dealer.
Write today for Folder and Extremely Low Prices.

National Mixer Co. 200
Sixth
Street **Oshkosh, Wis.**



EVEREADY
SAW RIGS

We're
Handing
You a Hot
“Hunch”

Let the Eveready Saw Rig

MAKE YOU BIG EXTRA PROFITS

EXTRA profits! Did you get that? We mean just what we say. You make a fair profit on the job *without* an OSHKOSH EVEREADY SAW RIG, but *with* it you are *bound* to make the *extra* money that it saves in time and work. An “EVEREADY”

SAVES THE WAGES OF SIX MEN

With it two ordinary men can tire out any saw gang you ever saw. Can be easily skidded anywhere on the job. With help of the set of free attachments, the

“EVEREADY” does ripping, cross-cutting, jig-sawing, dadoing, mitering, beveling, boring, sanding, tool grinding, etc.

Simple, easy to operate. Just a whirl of the wheel and she's off. Costs about 5c an hour when at work — nothing when idle.

The Mixer with the Effective
4-way Mix.

Also built for
steam or electric
power.



OSHKOSH MIXERS

Absolutely supreme in their field. Always “there” with the “goods.” It will pay any Contractor to learn the OSHKOSH MIXER record of *results*. A letter or penny postal inquiry brings all the facts free. Send for them today.

Oshkosh Mfg. Co., 316 S. Main St., Oshkosh, Wis.

Chicago Office: 1440 Monadnock Bldg.



The Winner-Four

**A Well Made, High-Grade Batch \$150.00
Mixer Absolutely Guaranteed**

Here is a low-priced concrete mixer designed by some of the oldest designers in the business and backed by one of the largest and oldest manufacturers—a machine that will turn out from thirty to forty cubic yards per day—a machine that meets the demands of the average contractor in every respect.

Why invest several hundred dollars in large, cumbersome, heavy, complicated mixers when you can buy the Winner-Four for half the cost and do as much work? A machine that has few parts, small weight, simple principle and will stand the service test.

We will give you all-gear drive, which does away with the breaking and wear of chains—a smooth running machine with no vibration to rattle the mechanism. We give you low charge—only 3 feet 4 inches. We give you easy discharge, run a wheelbarrow right up to the discharging point from any direction. You can put the machine right up to the forms if you like. One lever controls the machine. Mix is in plain sight all the time. You can mix anything from dry to slush mixtures. The engine is guaranteed for five years. In short, we give you a high grade machine, a machine that we can absolutely guarantee, at a price far below any other mixer on the market and a price you can afford to pay.

10 Days' FREE Trial

Don't take our word for all these things—let the Winner-Four demonstrate its worth on your own work. Let us ship you a Winner for 10 days' trial. Give it a thorough test and if you don't find it all O. K., send it back. All we ask is a trial—the machine will sell itself if you will let us put it on your work.

Get our Winner-Four Catalogue and free trial proposition, that tells the story.



At a small additional cost we will equip the Winner-Four with power side-loader, increasing the capacity about one-half because you can prepare one batch while you mix the other. The above photograph tells the story and the price is \$240.00.

The Cement Tile Machinery Company 136 Rath Street
WATERLOO, IOWA



I Now Present To The Contractors Of America-The Greatest Mixer In The World.

Yours Truly—THE STORK



It's the crowning achievement—the greatest advancement in mixer construction ever made. This inexpensive full sack mixer solves your problem.

No more splitting of sacks of cement in mixing, no more of the slow uneven batches that leading architects are opposing. No more breakdowns or expensive repairs. No more bearing troubles. Our steel construction, and the use of Hyatt Roller Bearings, make the Steel King Boss full sack mixer just what you've been looking for.

Stop! Look! Listen! Every Contractor Can Now Afford A—

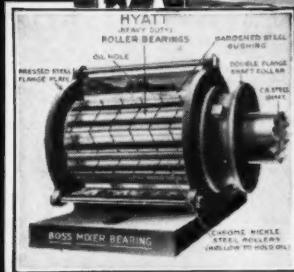
The old saying is, "Never send a boy on a man's job". That's true of mixers. In the past, full sack size mixers were too expensive for most contractors. They attempted to handle their work with the small, impractical size owing to low price. Our new Boss Steel King at our remarkable low price revolutionizes this.

Our price is a big surprise. Everybody who has seen detail specifications, who has seen it in operation, wonders how we can build it so good, put so many improvements and labor-saving attachments on it and still sell it so cheap.

The secret is, cheap manufacturing power, immense output, standardized parts, modern labor-saving equipment. Knowing the contractor's needs through years of experience enables us to give you 100 cents worth of value for every dollar you pay.

Gearless Power Loader (Therefore Troubleless)

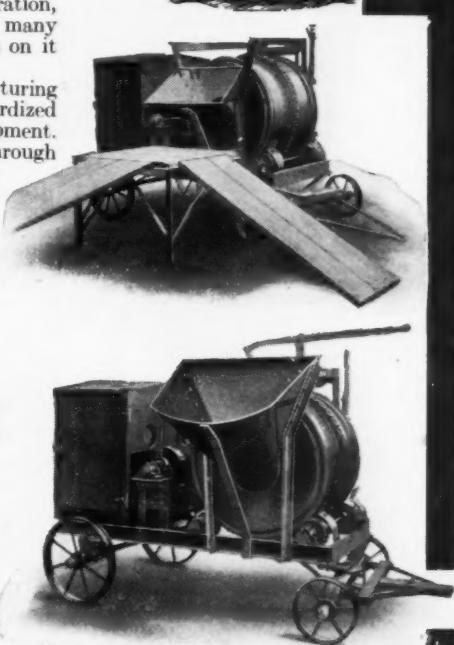
Stock
Carried
in all the
Large Cities
Insuring
Prompt
Shipment



Write for Catalog

New 1915 Prices Cash and Payments

Other Sizes
Famous Little
Boss 6 Ft.
and 10 Ft.
Steamer



Hyatt Roller Bearings

The big tractors and auto trucks use this same heavy duty type of Hyatt roller bearings as we use on this mixer. Tests show a savings of 17½% in power, 70% in lubricating oil. Bearings run in oil, enclosed in heavy dust and waterproof boxes, requiring oiling only once a week.

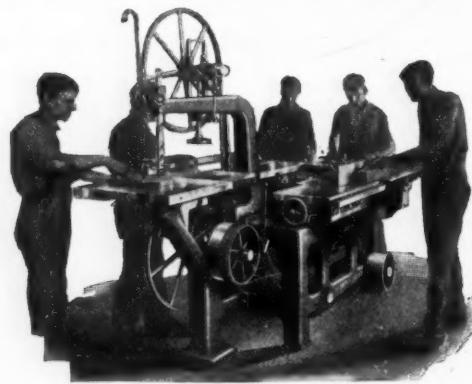
This is only one of the many improvements and labor-saving features we have embodied in this mixer. Steel construction—1000 lbs. less dead weight. No breakable castings. Frost and dust proof engine. Automatic measuring water tank, hinged loading platform, etc. Get full particulars. Write for our literature, prices and specifications. Address,

The American Cement Machine Co., Inc.,
1006 Johnson St. - KEOKUK, IOWA

FAMOUS

YOUR SUCCESS IN 19

WITH the addition of some equipment---known to give satisfactory results---that will enable you to *increase* the amount and variety of work you handle, your success for 1915 is assured. We aren't predicting --- don't know what will happen! But we are sure well-directed energy will **ALWAYS** pay. "FAMOUS" outfits do more than pay a good profit on the investment --- they also **increase the profit on any labor involved in their operation.**



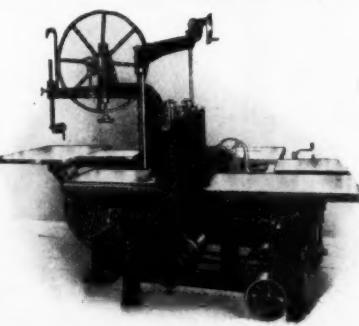
Five-In-One

Note above cut—five men working at five attachments. Each man has perfect control over his own unit. "Famous" quality characterizes every part. An exclusive feature with the "30 and 31."

There MUST be some one "top notcher" leading a field. Results prove that in the woodworking world our

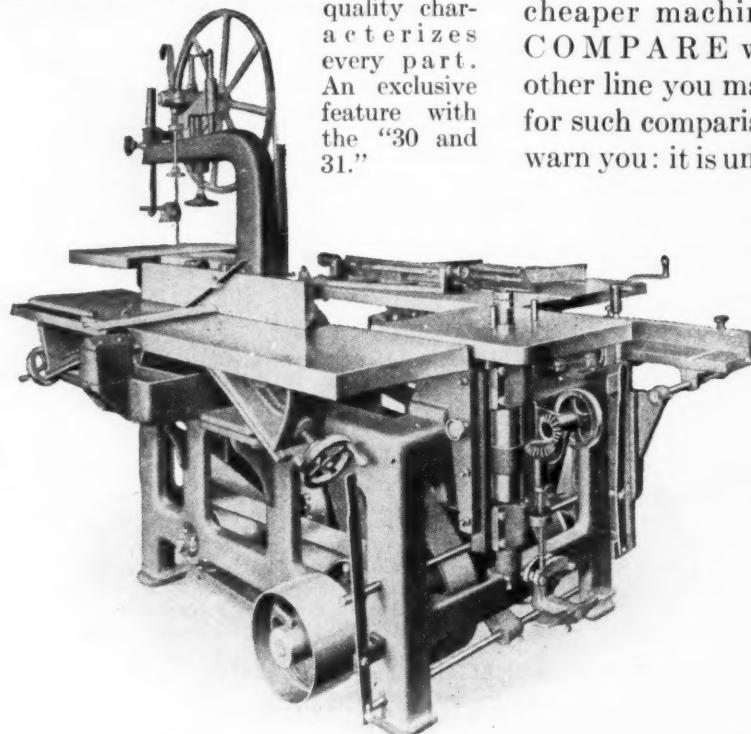
Nos. 30 and 31

are the superior types. We have lower priced machines. Naturally these will not measure up to either 30 or 31—but our cheaper machines will **COMPARE** with any other line you may select for such comparison. We warn you: it is unfair to any other woodworker, to compare it with either 30 or 31. These types are in a class alone. If you wish the **MOST EFFICIENT** Universal Woodworking machine, we will be glad to answer your questions regarding 30 and 31.



Power Feed Planing Attachment

If you wish a woodworker with power feed planing attachment, enabling you to convert a buzz planer into a power feed pony planing machine, remember!—you can secure this feature **ONLY** in a "Famous."



The Sidney Tool Co.
Sidney - - - - - Ohio

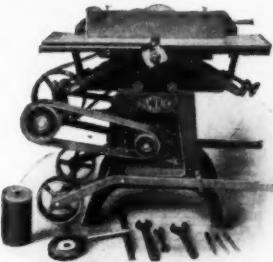
Design to the left shows new "31" — latest Universal built — most complete — saves time and labor — possesses speed, strength and power — popular in price—a **GREAT** Machine!

FAMOUS

15 IS NOW A FACT!

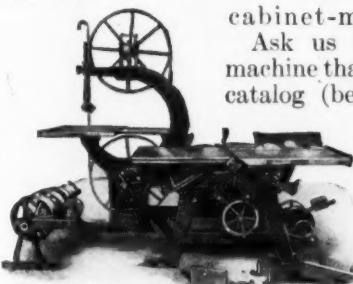
THERE is business to be secured --- but you will never be able to SEE it if you are back out of sight in the "tall timber." These are the days when wise men **take to work** while weak ones "take to the woods." There is one or more "FAMOUS" combination **just exactly suited** to your needs, one that will cause your output and profits to jump right up immediately. Read this page --- then write us.

Cut to the right shows the Mother of all "Famous" woodworkers. The No. 14. More machines of this type in operation than any other make in the world. The recognized **Known Value** in the field. The **Bed Rock** factor of "Famous" success. All Sidney tools and machines run "**true to type**" — if changed, they are **improved**.

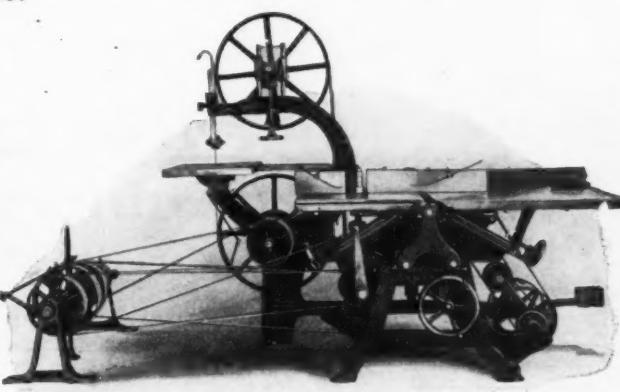


Take it through any door—right on to the job.

Below we illustrate the heaviest moderate priced woodworker (Universal) now being built. Equipped with 32-inch band saw and 16-inch jointer. The "Famous" No. 20.

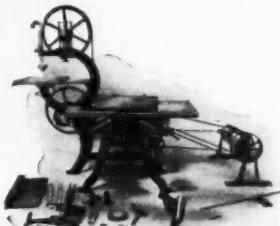


Ask us for complete information on any machine that may interest you. We will send the catalog (better ask for it — No. 12), and if we can add to the description, so that you may gain a better knowledge of the machine you want, we will write you definitely. Couple your **Labor** to a "**FAMOUS**" Outfit and your 1915 Success is Now Assured.



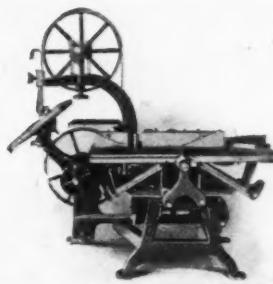
INDIVIDUAL MOTOR DRIVE, if desired. We build a complete line of individual machines (as well as the combinations)—which will be equipped with individual motor drive, if wished.

The small cut to the left shows the inside portable.



ABOVE, you see the "Famous, Jr." — a fine cabinet-maker's equipment.

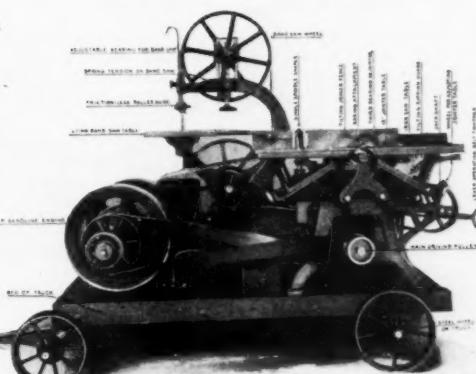
There are 54 styles in "Famous" Universal woodworkers. Does it not stand to reason that ONE of them will fit your business? Drop us a card for Catalog No. 12. Its 128 pages are full of information on "Famous" Machines. Have you a copy? Write for one today. You will then have in compact form the entire "meat" of our proposition.



A Carpenter's Machine.

The one above is a popular size and price for carpenter's use. This is a complete outfit. The No. 12.

Down below in the corner is the only complete self-contained portable planing mill on earth, especially adapted to the work of the heavy contractor. The "Famous" No. 3 Portable.



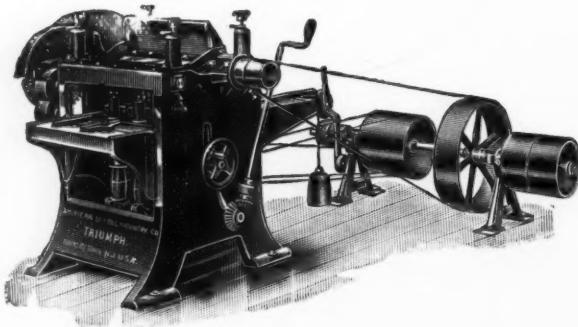
The Sidney Tool Co.
SIDNEY - - - - - OHIO

Cut Your Costs

With a

“TRIUMPH”

Planer, Matcher and Moulder



The price you pay for flooring, ceiling, siding, wainscoting, moulding and trim includes the maker's profit. And to that price you must add your profit.

If you own a "Triumph" you can make all this sort of work yourself, in your own shop, and keep the profits in your pocket.

Then you are able to bid lower while still making your own good profit. And you stand a better chance to get the contract.

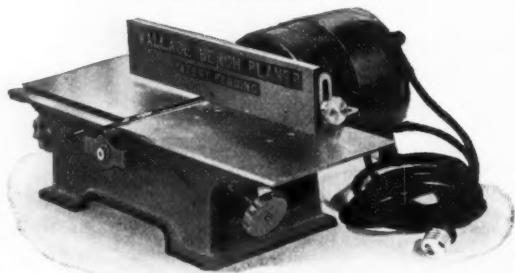
Send for the "Triumph" Pamphlet

American Saw Mill Machinery Co.

80 Main Street
HACKETTSTOWN
NEW JERSEY

1360 Hudson Terminal
NEW YORK CITY
NEW YORK

A Portable Bench Planer



WALLACE BENCH PLANER

Either Belt or Motor Driven

This machine will take as **heavy** a cut as the largest planers. It is not flimsy, but as durable as the costliest machines. It is **light** and **cheap** because we got down to **fundamentals**. It is fully guaranteed, and will be sent on trial anywhere.

Easily portable, can be carried to the job.
Stands on bench without fastening.

Table adjustable to any depth of cut.

Fence adjustable to any angle.

Runs from an electric light socket.

Capacity, any length, and up to 4 inches wide.

Length of tables over all, 18 inches.

Weight of machine with motor, 50 pounds.

Our descriptive folders give full information.

J. D. WALLACE
525 W. Van Buren Street - - - CHICAGO



Every Carpenter and Builder Needs Me—

In a small shop I will take care of all planing, jointing, rabbetting, etc.

I am so handy that the hand plane is practically eliminated wherever I am used.

I take up small floor space.

I consume hardly any power in operation.

I can not cut off any fingers as I am fitted with a patented circular safety cutterhead.

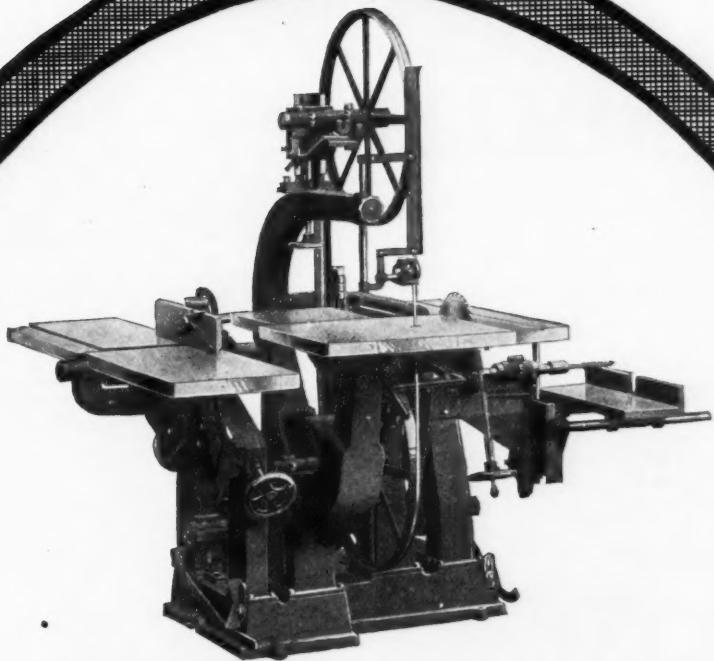
I will turn out perfectly smooth work because my safety head is round, runs true and is fitted with thin, air-hardened "Tungsten" steel knives which require sharpening only once a week if jointing attachment is properly used.

I have made money for every wood-shop in which I am used.

I am sold at a price within the reach of any carpenter, and quickly pay my own way.

I am the **FAY-EGAN** No. 254 Bench Hand Planer and Joiner

To find out more about me ask
J. A. FAY & EGAN CO., 545-565 West Front St., Cincinnati, O.,
to send you Bulletin H-7



Crescent

Universal Woodworkers

The Crescent Universal Woodworker is a combination of machines each independent of the other, arranged compactly and mounted on a single-cast base. Each machine is so arranged as to give an easy and natural position to the operator and not interfere or inconvenience the men working on other machines. Each machine is started and stopped independently, with its own lever. Each part is driven by an endless belt and when not in operation, is stopped, thus reducing wear to a minimum and saving power. There are five units to a completed machine:—a Band-saw, a Jointer, a Shaper, a Saw-table and a Borer. Each unit has all the conveniences and facilities of an individual machine. Four men easily work on a Crescent.

The New Crescent

Nos. 101 to 112 is illustrated above. This is our light model, made to fill the demand for a somewhat lighter and lower priced Universal Woodworker. It includes all the features and conveniences of our large Universal Woodworker. This machine is particularly adapted for Builders' shops. Any Builder with this Crescent Woodworker can handle all his own millwork. As on our Large Machine four men can easily work on this machine without interference. This machine will satisfactorily turn out the same high-class work as our larger machine. If you are looking for a high-grade moderate priced Universal Woodworker, investigate this New Crescent. We also have a complete line of Woodworking Machinery: Variety Woodworkers, Planers, Shapers, Surfacing, Saw-tables, Band-saws, Swing Saws, Borers, etc. We make these machines either belt or individual drive. Our large FREE Catalog describes all our lines. Write for it today.

The Crescent Machine Co.
224 Main Street
Leetonia, - Ohio

The ELLIOT WOODWORKER

On the job or in the shop the Elliot Woodworker will save more time and money for you than any other single machine on the market today.

Over 500 are in successful use. Runs on any house lighting current. Cuts 3" thick; it will cut 3" joist, 2 x 4, fence boards, house out a pair of stair strings 16 ft. long in 35 minutes, and all other dadoing, grooving, etc., required.

Can be swung like a mitre-box to cut any angle and will successfully cross-cut long lumber as the saw is drawn back and forth like a swing-saw.

Can be used as a sticker for moulding.

The Elliot Woodworker is different from any other machine and will do more work and more different kinds of work than any other.

Write for free illustrated catalogue and liberal terms.



Patented 1910-1914. Other patents pending.

THE ELLIOT WOODWORKER, Ltd., 2405 Woodward Ave. —
DETROIT, — MICH.

Canadian Factory, College and Bathurst Streets, TORONTO, ONT.



Combination
Saw Table **\$48⁰⁰**
F. O. B. Kansas City

We carry a full line of Universal Woodworkers.

Nelson, Mo., Feb. 25, 1914.
Standard Machine Tool & Supply Co., Kansas City, Mo.
Gentlemen:—The more I use my No. 14 Famous Universal Machine the more I like it. I feel by the time I get thoroughly acquainted with it I would refuse to part with it. Yours truly,
R. B. Finley.

Write for our Money-Saving Catalog and Bargain Prices.

Standard Machine Tool & Supply Co.
1st and Main St. Kansas City, Mo.

**COMPLETE OUTFIT ~~PRICE~~
HAND AND FOOT-POWER
MACHINERY** **\$15.00**

Our No. 7 Scroll Saw is warranted to be made of good material and workmanship, and to saw pine 3 inches thick at the rate of one foot a minute.

Send for
Catalogue.

W.F. & Jno. Barnes Co.

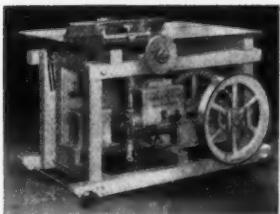
74 Ruby St. ROCKFORD, ILL.



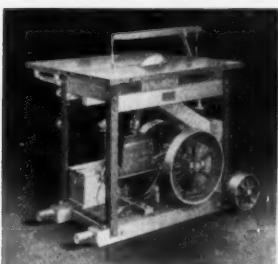
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showing
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Wood
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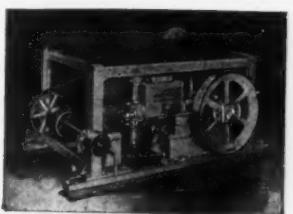
CHICAGO MACHINERY EXCHANGE — — — 1215-1223 WASHINGTON BOULEVARD
CHICAGO, ILLINOIS



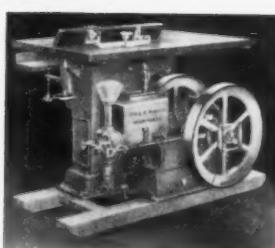
No. 1-A Saw Rig



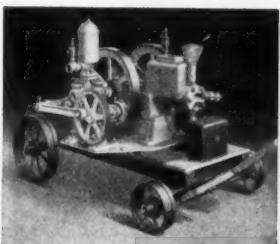
No. 3 Saw Rig



No. 4 Saw Rig



No. 2 Saw Rig



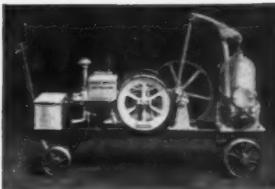
Piston Force Pump

SEND FOR OUR NEW CATALOG

JUST OFF THE PRESS

Good dependable machinery built for service, and economy is what you want on the job. We are the PIONEERS in the manufacture of Portable Saw Rigs. Be sure you write us before buying your portable outfit.

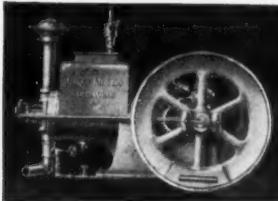
C. H. & E. Manufacturing Co., Inc.
322 MINERAL STREET



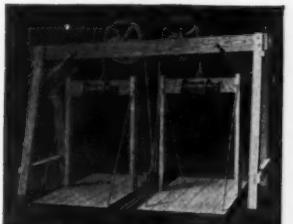
Man-Hole Pump



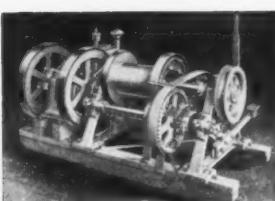
Mortar Mixer



C. H. & E. Engines



Material Elevator



Gasoline Hoist

The METCALF DRESSER

will keep your grinding wheels in the best condition. This Dresser is especially efficient for shaping or dressing grinding wheels used for saw gumming. With this device a wheel can be given a fine, close grained face for smooth work or an open face for rapid cutting.

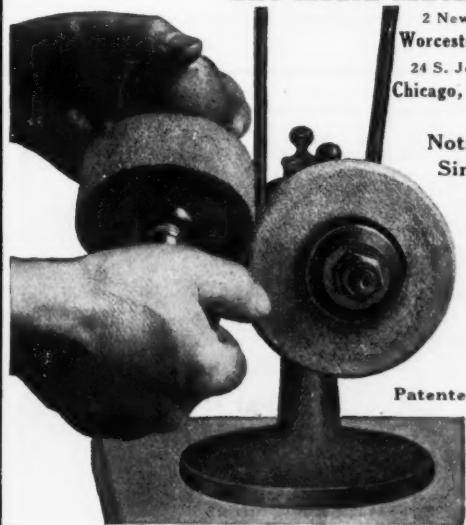
This Dresser can be used for a variety of purposes, it is simple and easy to use. Write for our illustrated folder showing how it is used on all kinds of wheels. Address

The Heald Machine Co.

2 New Bond St.,
Worcester, - Mass.
24 S. Jefferson St.,
Chicago, - Ill.

Note how
Simple

Patented



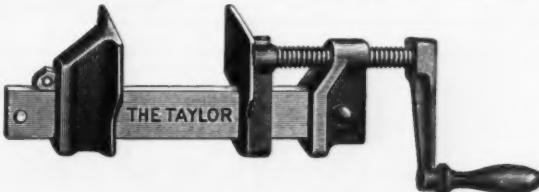
\$13.95

per doz. 4 footers
—if you send cash
with order.

Absolutely Safe; two of them will carry a ton, and they last a lifetime. Think of the time you save! One man alone can put them up and take them down easily and quickly.

No Side Swing if you purchase our new fixtures at 80c extra per dozen brackets: these keep the brackets absolutely rigid.

Write for Catalog of Builders' Specialties!



Save minutes for your workmen and you will save money for yourself. A man's time costs just so much per hour; use clamps that will increase his output.

Moreover, TAYLOR CLAMPS cut down the amount actually expended for tools. In the Brooklyn Navy Yard TAYLOR CLAMPS have lasted more than twice as long as the next best clamps made.

Catalogue No. 11 shows 22 styles. Free on request.

James L. Taylor Mfg. Co.
Poughkeepsie, N. Y., U. S. A.



YOU LOST THAT BIG JOB BECAUSE YOUR BID WAS TOO HIGH

YOU ALSO LOST THE ADVERTISING WHICH THAT JOB
WOULD HAVE GIVEN YOU. IT HURTS, BUT NEXT TIME

REDUCE YOUR BID \$400.00 TO \$700.00

AND DEPEND UPON THIS FLOOR MACHINE TO MAKE
GOOD EVERY CENT OF IT. IT RUNS BY ELECTRICITY.

THINK THIS OVER—THEN WRITE US—NOW.

THE AMERICAN FLOOR SURFACING MACHINE CO.
TOLEDO, OHIO

FREE TRIAL:

Mosaic, Marble
or Composition Floors

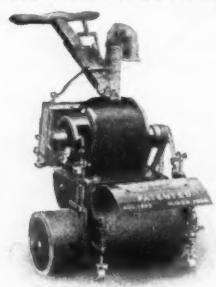


SEVERAL SIZES

Send for our proposition

RAPID—FLEXIBLE—AUTOMATIC ELECTRIC FLOOR SURFACERS

Old or New Wood Floors



SEVERAL SIZES

M. L. SCHLUETER, 225 W. Illinois St., Chicago, Ill.

The FOX Floor Scraper

is conceded by Carpenters and Contractors to be the most perfect and practical tool of its kind in use. It will do the work.

Sold on its merits
for 10 years.

We ship on ten days approval.

FOX SUPPLY COMPANY
Dept. A. BROOKLYN, WIS.



Scraping Outfit Consists of
1 Clamp Block for resharpening blades. 1 Wrench.
1 Burnishing Steel. 1 Hone.
1 File. 4 Crown Blades.
3 Roughing Blades.

1 Finishing & Polishing Blade & Complete set of Instructions for operating Scraper & resharpening blades.

Complete Outfit
\$25.00

THE IDEAL

Electric Floor Sander

For surfacing all grades of wood floors, works equally well on new or old floors. Removes paint, varnish, dirt, grime. Will surface 5,000 square feet once over in eight hours.

The lowest priced and most efficient floor sander on the market.

The Ideal Floor Sander is simplicity itself and built mechanically correct to withstand years of hard service.

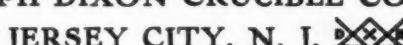
*Write for our FREE
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Straight-grained cedar that cuts like cheese; smooth, tough leads that make clean-cut, strong marks—that's the way Dixon's Carpenter Pencils are described. Send 16c for generous sample lot 183J.

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The AUTOMATIC BALLBEARING Electric FLOOR SURFACING MACHINE

Patented Oct. 16, 1912.
Made in several sizes.

will save you money by rapidly finishing your new or old floors just the way you want them. Is self-propelling—you simply guide.

Write today for Booklet telling all about the machine, our *free trial offer*, and list of users near you.

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TWO MINUTES

Will cut an opening in a door for a mortise lock

IMPROVED AND UP-TO-DATE

cuts true, in any kind of wood for any size lock from $\frac{1}{2}$ " to $1\frac{1}{2}$ " thick. Easy to operate; durable in construction. Builders use it everywhere.

Sent subject to trial.

A. W. Miller Mfg. Co.

Riverside, Calif. 1-1 Cincinnati, Ohio

Our Butt Mortiser and Rule Gauge for 75c., Postpaid



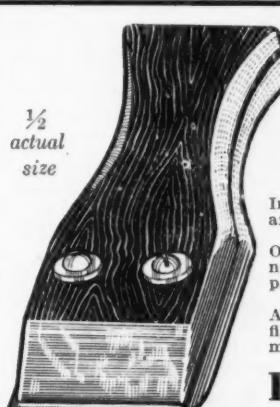
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5 DAYS FREE TRIAL



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The WEBER DOUBLE ACTING Floor Scraper



The Handy Hand Scraper

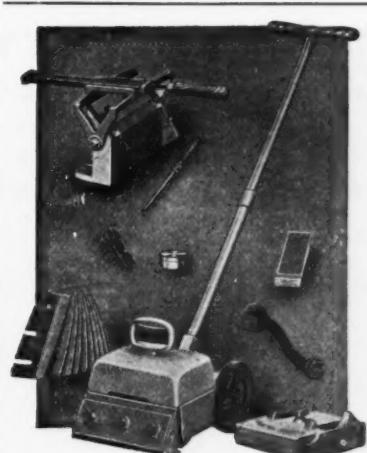
A perfect tool for floor work. Properly balanced. Made to fit the hands. Gives free play to all the muscles.

Indispensable for trimming edges and on small surfaces.

Oak handle, blade and special burner. Sent anywhere in U. S., prepaid, upon receipt of price, \$1.00.

Ask for my booklet giving facts and figures on how I scraped three million sq. ft.

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I'll send you this Acme Floor Scraping Outfit free. Use it for a week at my expense. Prove to your own satisfaction that you **need** it—that it will do the work better, quicker, cheaper. Then, if you don't want it, send it back, and you are under no obligation. The

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is the most complete hand operated equipment on the market. Thousands in daily use, giving perfect results.

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Sander, FREE to Cash Buyers

Why Pay More Than The Other Fellow?

Is his money better than yours?

When you get the genuine **ADJUSTABLE FLOOR FINISHER** you pay only for the actual cost of manufacture with but one small profit added, for I sell only to the user **Direct**. There are no dealers' profits or commissions for you to pay.

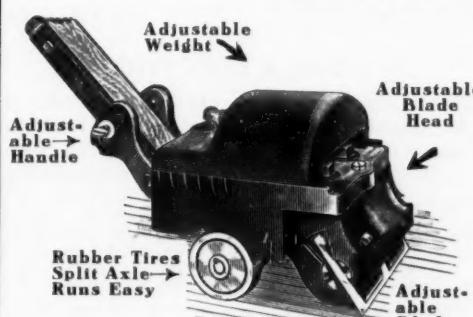
GUARANTEE:—You may use it for **Ten Days FREE**. Put it to the hardest tests you know of—scraping wood floors, hard or soft—old or new.

If it doesn't do your work in a manner entirely satisfactory to **YOU**—quickly, easily, perfectly—if it doesn't prove to be the biggest **time and labor saver—money maker** for the money you ever saw—or if for **any reason at any time** you are not well satisfied, you may have your money back if you want it.

SCRAPER, complete with six extra blades, burner, wrench, etc., on ten days' **Free Trial**... \$22.00
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SANDER FREE if cash accompanies order



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H. P. Didriksen
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THIS COUPON IS WORTH \$2.50

H. P. Didriksen,
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Without obligating me in any way, you may send your printed matter, provided you accept this coupon as payment for the Sander, if I decide to buy for cash.

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ARE READY WHEN YOU WANT THEM

You never have to wait for a **Sedgwick** Dumbwaiter. We always carry catalog sizes in stock and ship the day the order is received.

No trouble—no delay—no correspondence to hurry up a slow dumbwaiter manufacturer. A **Sedgwick** is on your job when you want it.

You get, in a **Sedgwick** outfit, a complete outfit of specially designed, properly related parts—no extras—no disappointments.

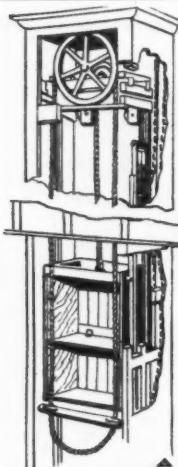
And in a **Sedgwick** you get a guaranteed dumbwaiter machine—we stand back of you and protect your interests with a guarantee that means something.

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A. B. C. DUMBWAITERS

Called This For Their Simplicity And Perfection

They can be relied on to give permanent satisfaction. The design is right, the workmanship and materials of the best. Our broad experience and reputation stands back of all our Dumbwaiters. Why not handle King Dumbwaiters. They will net you a good profit and make all your customers boosters.

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is part of the equipment of all our Dumbwaiters. It will hold load at any floor. Our catalog describes it. Send us your specifications and let us figure them. Send for catalog now.

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Columbia Dumb-Waiters
Pavement or Cellar Hoists
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CARPENTERS WANTED AS AGENTS

During Fall and Winter Months. Big Money:

Ready Seller.

SANITARY AUTOMATIC DUMBWAITER

saves carrying food to and from the cellar. Perfectly ventilated; screened openings; finished inside with durable white enamel. Keeps food perfectly. Top lies flush with kitchen floor. You can walk over it. Operates with push button or lever. Also furnished as a Refrigerated Dumb Waiter. Cost of installation nominal.

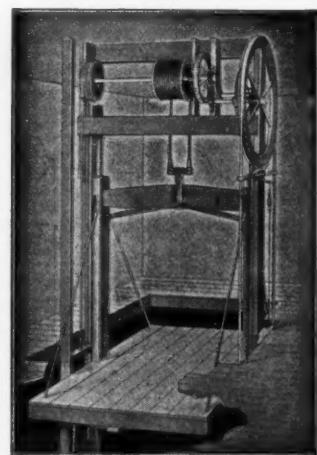
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York Automatic Dumbwaiter Works, 639 W. Market St., York, Pa.

This Elevator IS PAR--EXCELLENT

in all that name implies.

So also are our **Dumbwaiters, Sidewalk Lifts, Carriage, Auto and Store Elevators.**



Mr. Contractor, you should install our line exclusively. It will mean satisfaction for your client, and lasting good reputation and profit for you. No worry. No bother. No trouble.

Easily installed from our complete plans and instructions which are sent with each elevator.

The Reasonable Cost Will Interest You

Write to us today stating requirements, giving style of machine wanted, size of platform and number of feet travel and we will name you a money-saving price on equipment made to serve you well.

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DUMBWAITERS AND ELEVATORS

CHELSEA

EXEMPLAR OF QUALITY

Made in the U. S. A.

SHIPPED OR ERECTED ANYWHERE

Our Catalog "C" Mailed on Request

We manufacture only one quality and that is the best that can be made. So we guarantee each Dumbwaiter we make.

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Excelsior Dumb-Waiters

The only Knock-Down Dumb-Waiter ever offered, shipped complete to a nail, with explicit directions for erecting, for \$18.50



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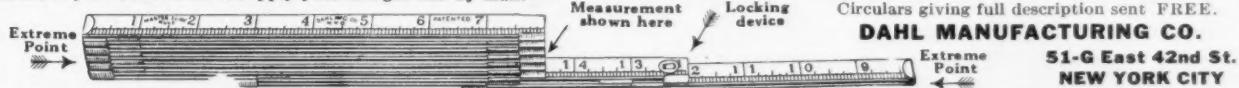
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Patented: Nov. 29, 1892
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A Huther Bros. Dado Head
Fits Any Saw Rig

Cuts perfect grooves
with or across grain.
Simple, no-screw
adjustment. The
choice of experts.

Huther Bros. Saw Mfg. Co.
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Parks Portable Single and Combination

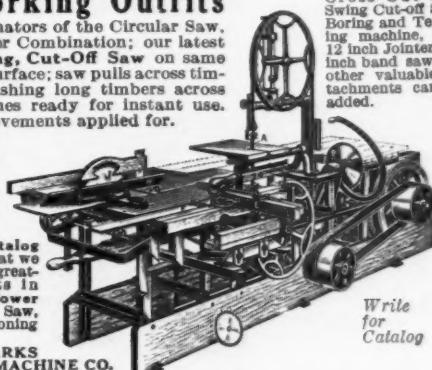
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We are the originators of the Circular Saw, Band Saw, Jointer Combination; our latest innovation, Swing, Cut-Off Saw on same base; long table surface; saw pulls across timber instead of pushing long timbers across saw. All machines ready for instant use. Patents on improvements applied for.

Machines are made in large quantities which enables us to sell at lowest prices and make immediate shipment. Ask for catalog and you will find that we have also let in the greatest improvements in Foot and Hand Power Circular Saw, Band Saw, Mortising and Tenoning Machines.

THE PARKS
BALL BEARING MACHINE CO.
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Circular Rip and
Cross-Cut Saw,
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Boring and Tenoning
machine, with
12 inch Jointer; 22
inch band saw and
other valuable at-
tachments can be
added.



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Triple "A" Floorsmooother

The Machine with the
Spring Motor Drive

The only convenient motive power.

The Floor-surfacing Capacity of this machine is equal to that of Electric Sanders and three times greater than that of ordinary Hand Power Scraper Machines.

The Quality of its work cannot be equaled.

Its Cost of Operation per Square is less than one-third that of any other.

Its Simplicity of Construction is such as to enable you to offer this superior machine at a remarkably low price.

THE TRIPLE "A" SPRING DRIVEN FLOORSMOOTHER can be used as a Scraper, Sander or Blade Sharpener—adjustments made in a few seconds. Seeing it in operation is wanting it—every builder will buy one eventually.

We want a practical man of the building trade as Agent in each county and will make an especially low price on the first machine to be used as a working sample, and pay a liberal commission on future sales. Write us at once or send in Coupon.

Triple "A" Machine Co.

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Date.....

Triple "A" Machine Co.,
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Send me full particulars of your Agency offer
Expect to have square feet of floors to
surface about 191...

Name.....

Address.....

Occupation.....

Remarks.....

Start Your Spring Work Right!

Don't pay out good money to civil engineers for laying out your building sites, locating batter boards, and foundation walls. Do all that yourself with the simple, low priced

Starrett Transit

Our instruction book which we furnish with this instrument enables any carpenter, builder or contractor to do any ordinary work of this kind.



The transit has no complicated devices, which are only necessary for special engineering work.

Write to us now for our free catalog No. 206 and the transit instruction book, or ask any hardware dealer about it. The price is only \$28.00 complete.



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Articles Every Carpenter Needs

Boxwood
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We guarantee to YOU absolute satisfaction
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THE LUFKIN RULE CO.
New York Saginaw, Mich.



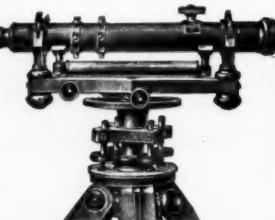
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When in need of these
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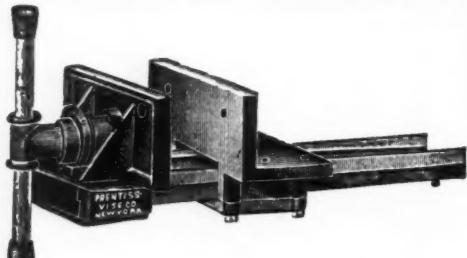


insure against mistakes in leveling by using our Architects' and Builders' Level. We make a specialty of this instrument. It will give positive, accurate service. Saves its cost in a short time.

We manufacture a complete line of surveying instruments in various sizes and at a wide range of prices. Our circular No. 27 will explain our instruments to you in detail. It will pay you to get it before deciding upon any surveying instruments.

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For Cabinet Makers and Wood Workers. Simplest—Strongest
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106-110 LaFayette St., New York, U. S. A.

"Last a Lifetime and Give Satisfaction
To the End"



BUTT CHISEL

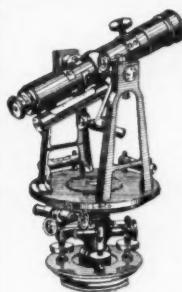
The celebrated Barton Planes and Edge Tools for carpenters and all other woodworkers are unequalled by any other made for keen, hard, smooth cutting edges. If your hardware dealer does not handle



THE CELEBRATED BARTON TOOLS

Send direct for catalogue and our free story book, *True Stories*. Be sure to specify "CARPENTER'S CATALOGUE."

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For the builder or architect who wants to raise the standard of his work—who takes conspicuous pride in the accuracy of his efforts, this transit is especially designed. It is but one of the complete line of Beckmann quality instruments. Send for our complete *free* catalog.

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When you *do* buy, select the Instrument with Accuracy, Rigidity and Service built right into it!

Up-to-date construction means less weight, greater strength, easier to operate, longer service, minimum up-keep cost.

Write *to-day* for Vest Pocket Manual, No. 30 Circular and Special Offer for this month.

WARREN-KNIGHT CO.,
Makers of
"Sterling" Transits and Levels
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Rent This Level 10 Months Then It's Yours

Builders and Contractors

This is not an old style Level. It is the newest 1915 model *convertible* level. There is not a single Builder or Contractor who has not almost daily need of this instrument. For laying out buildings, locating foundation piers, leveling up foundations, walls and floors, aligning shafting, walls, piers, etc., for getting angles, locating levels anywhere, ditching, laying streets and walks, running straight lines, and a hundred other uses.

Instruction Book Free

Complete illustrated booklet, telling how a builder or contractor can use the convertible level, sent free on request.

WARNING

The Level we offer is the new Aloe Convertible Level. Don't confuse the Convertible Level with the ordinary old style Architect's Level. The only work that can be satisfactorily done with the ordinary Architect's Level, is the determining of elevations. But the Convertible Level, besides its use as a level, is a modified transit and broadens the use of the level 100%. You can't afford to buy any but the Aloe Convertible Level.

HALF CENTURY REPUTATION

We have been manufacturers of transits and levels since 1863, and our instruments are the standard of the world.

FREE TRIAL

We allow you to convince yourself by a trial of the instrument before you obligate yourself.

THE RENT BUYS IT

No large cash outlay needed. Just pay the rent for a few months and the instrument is your absolute property.

The G & B Convertible Level

is Accurate, Durable and Simple to operate. A high-grade, well made instrument

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Have the G & B Convertible Level sent on approval—if you have several makes you will decide on ours. Our Guarantee is money back if not satisfied. *Send for Circular A, prices and terms.* We are reasonable.

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Builder's Transits
or
Architect's Level
The
G & B



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Building requirements of today demand the use of an accurate instrument for laying out, squaring and leveling Foundations; plumbing walls and girders; locating stakes etc. The Transit illustrated herewith is especially designed for the Contractor and Builder who wishes to do the above work accurately and quickly. It is of light construction without sacrificing strength and rigidity. All of the necessary surveying connected with building operations can be done with this instrument. We also make a large variety of Levels of the convertible and plain type. Before deciding on any make of instrument be sure to obtain our beautiful illustrated catalogue and special Discount Sheet.

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Send the attached coupon today and we'll send illustrated booklet and complete details of how you can own the Aloe Convertible Level for 10 months' rent.

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A. S. Aloe Co., 621 Olive St., St. Louis, Mo.
Please send free instruction book on the use of the Convertible Level and complete details of your rental plan. This request in no way obligates me.

Name

Occupation

Street

City..... State.....

Am.C.&B. Jan. 15

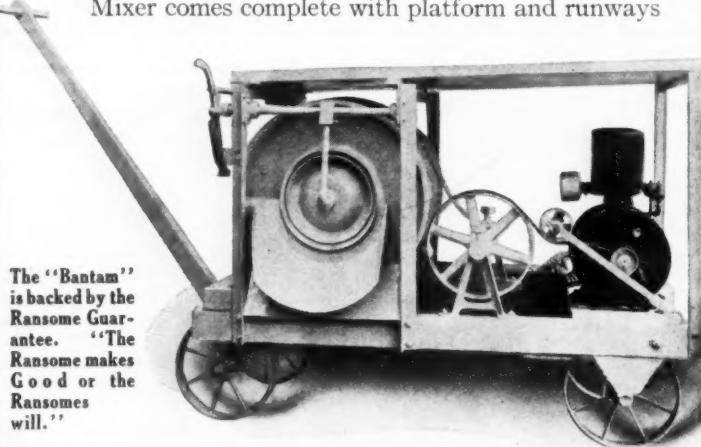
RANSOME'S BANTAM

A 10 CUBIC FOOT CAPACITY MIXER COMPLETE FOR

\$275⁰⁰

The small mixer with the large capacity. You can't afford to invest in any other mixer when the Ransome "Bantam" has double the capacity and will do double the work of others at the same price or more. It's the special door that gives it this large capacity. This mixer is very easily loaded, feed opening being only 27 inches from the ground. This

Mixer comes complete with platform and runways



The "Bantam" is backed by the Ransome Guarantee. "The Ransome makes Good or the Ransomes will."

GET ALL THESE POINTS

The Ransome "Bantam" has a capacity of 1 bag batch up to 1-3-6. It is equipped with a 3 H. P. Novo Engine and has ample reserve power. The height of the feeding platform is only 27 inches; the height of discharge is 26 inches; thickness of Drum is No. 10 gauge; thickness of Mixing Blades is No. 10 gauge; Wheels 20"x3". Weight, complete with Platform and Runways, 2700 pounds.

Write to our nearest office for more complete information about this wonderful, sturdy Ransome "Bantam."

Ransome Concrete Machinery Company

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CHICAGO OFFICE, FISHER BUILDING

W. E. Austin Machinery Co., Southern Sales
Mgrs., Atlanta, Ga.; New Orleans, Houston, Dallas,
Memphis, Richmond.
F. H. Hopkins & Co., General Agents for Canada,
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MEN

We will furnish you four or six good men to work in your block plant, mix hardwall plaster or brick mortar; or to mix concrete. These men will be furnished with heavy steel shovels, with which they will shovel your material over and over to a perfect mix—a batch every minute—in a specially designed mixing box which they will bring along with them.

And note! These workmen will turn the stuff with their shovels at exactly the right second, so that all, working in conjunction with each other, will handle their shovels to get the very most out of them.

You can watch them do their work. The material will always be in plain sight, so you can see just how they are doing their work.



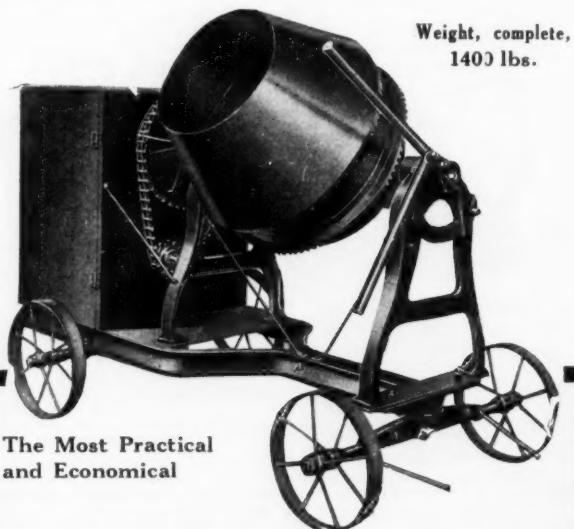
Here are the malleable iron men that will shovel for you and not get tired

When the batch is mixed, you simply help them a little by turning a crank handle, and they will shovel the material out of the box into a wheel barrow or the forms.

Listen! When they are through for the day, if you will bring them a pail of water or two, they will clean out the mixing box themselves.

These men will come to you with shovels, mixing box and all. Write us about them today.

Blystone Mfg. Co.
215 Carpenter Street
CAMBRIDGE SPRINGS, PA.



The Most Practical and Economical

THE McCRAKEN

Portable Batch Mixer

Simple in construction, but very efficient. No useless machinery. Built to mix concrete and mix it quickly and thoroughly; Frame is heavy and well built. Built for service. Powered with our own 2-H.P. Sioux Engine, enclosed in steel housing. The McCracken Mixer has a capacity from 30 to 40 cubic yards per day. Equipped with friction clutch.

Get Ready for Spring

Have a real Mixer when the building season opens; do your own concrete foundation work, sidewalk work, etc. Write to us for complete information about the McCracken.

Sioux City Engine & Machinery Co.
9th and Division Sts. Sioux City, Iowa

LET THIS MIXER COIN MONEY FOR YOU, TOO

The "Northwestern Special" has coined money for a lot of contractors during the past year. It will make money for a lot more during 1915. You be among them. Get this handy, speedy, perfect mixer on the job, get the work done quicker, better—**make more money**. It's a whirlwind for speed, keeps a good sized crew going every minute and turns out a mix that simply can't be improved upon. And, at our special low price, it's clearly the biggest bargain buy in the mixer market today.

A Real Five Foot Mixer At a Real Bargain Price

Our "Northwestern Special" is a handy mixer for big jobs as well as small jobs. Just what you need for sidewalks, curbs, gutters, foundations, floors, piers, small bridges, etc. There isn't another Mixer of its size that will equal this **real five foot mixer**. The shape and tilt of drum, arrangement of paddles and the special combination of the cone and cylindrical principle make it the best big-little mixer ever designed.

Has big, open charging end, paddle arrangement, combination of drop or shower, as well as "whirlpool" mix, closed discharge, permitting use of chute or hopper, enabling operator to unload in three revolutions of drum, and a discharge controlled by an independent outside lever. Most convenient, easily handled and operated Mixer ever perfected. Even if you are now operating a large capacity Mixer, you will find this machine a splendid investment because of its convenience and portability.

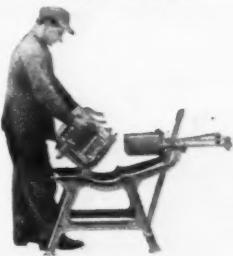
The "Northwestern Special" is light in weight, easily accessible for adjustment and repair, can be hauled anywhere on the job by three men, and requires only a two and one-half H. P. Engine. Handles 40 to 50 yards of concrete per day and is remarkably useful on either large or small jobs. Price is so low that the big contractor can easily afford to add it to his equipment and the small contractor simply cannot afford to be without one. Write quick for our special low price on this outfit.

Everything for Concrete Work at Wholesale Prices

The Northwestern line includes everything for cement-concrete work at bed-rock prices. Block Machines, Brick Machines, Batch Mixers, Sewer Pipe and Drain Pipe Moulds, Ornamental Moulds, Burial Vault Moulds, Cap and Sill Moulds, Lawn Vase Moulds, Silo Moulds, Finishing Tools, Engines, Well Curbing Moulds, Crushers, Fence Post Moulds and everything else for the cement contractor. Get our low **factory** price before you buy.

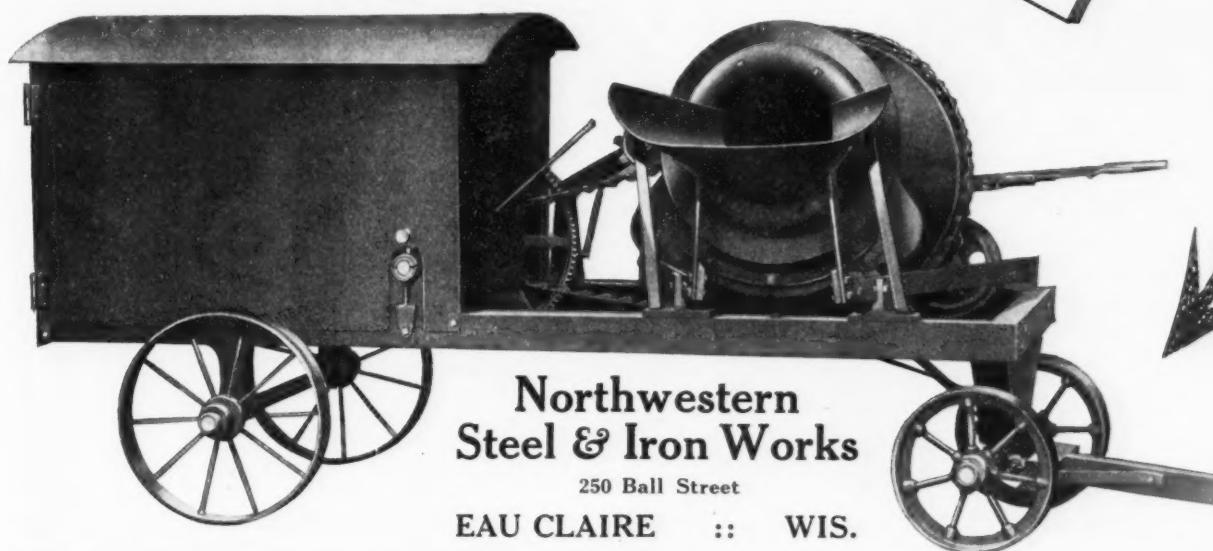
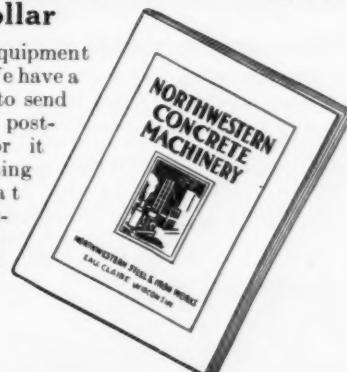
"Northwestern" Face Down Block Machine

We are in position to start you on smallest investment possible consistent with quality equipment. The machine here illustrated has the construction, capacity and convenience for economical profitable operation and the price is such that you should investigate before buying. There is good profit in making concrete blocks with Northwestern equipment. Write us today and we will tell you **how and why**.



Get This Book Before You Spend a Dollar

for concrete equipment of any kind. We have a copy all ready to send you, free, and post-paid. Ask for it today. In writing mention what kind of equipment you are in the market for.



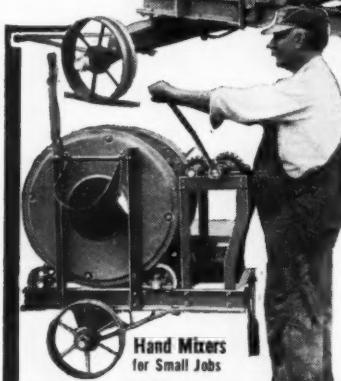
Northwestern
Steel & Iron Works
250 Ball Street
EAU CLAIRE :: WIS.

1915 Mixer Sensation

5 Ft.
Cap.

On Steel Trucks 3 H.P. Engine
Steel Housing Low Barrow Hopper

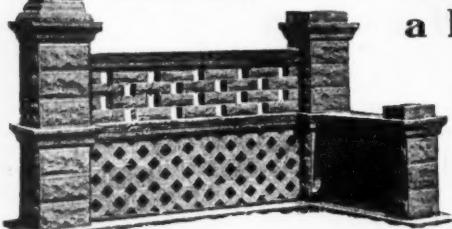
Has steel housing, low barrow hopper. Can also be equipped with measuring hopper, power loader and automatic water tank.



Hand Mixers
for Small Jobs

CONCRETE PORCHES ARE PROFITABLE

Owners want them. Are ornamental, economical, everlasting. Pay builders a big margin. A quick-selling proposition for Spring building season. Dunn Molds for making Porch as shown, \$39.00 for complete outfit. 15 days' use before you pay us. Ask for Porch Mold catalog.



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Dunn Concrete Mixers \$67.50

On Trucks or Skids, for contract or shop use. With or without power. Ask for Mixer Catalog.

W. E. DUNN
MFG. CO.

4132
Fillmore St.,
Chicago



Patent
No. 842262 and
782700

It's a mixer that meets every possible requirement on every-day jobs. Sturdy, but light in weight. An investment that will pay dividends every day it's used. Nothing like it for the price ever offered. Better than most of the mixers that cost one or two hundred dollars more. Read specifications and description below.

\$185

Packard
SPEED / QUALITY
HAND AND POWER MIXER.

Sold on 5 Days' Trial---Cash or Terms

Has steel trucks. Runs in wagon tracks. Substantial drum with mix and remixing action like the large \$2,000 paver. 3 Horse Power engine. Fast discharge. Has low barrow hopper. Steel housing over engine. Exceptionally good for county or township work, for silo builders and general contractors. Sold on 5 days trial. Money back if it fails to come up to all claims. No quibbling or argument.

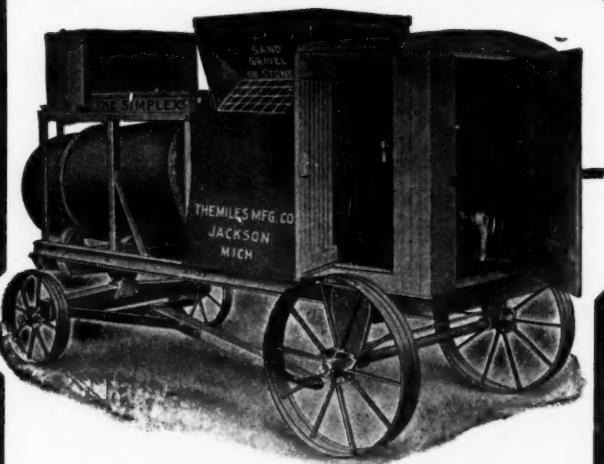
CONTRACTOR'S MACHINERY CO.,

The biggest mixer value in the world. Get free catalog and full particulars about our trial proposition, low cash price and our reasonable easy payment offers.

If you want a hand mixer that can also be used on belt, a mixer that's cheap but good, ask about our Packard Hand Mixer. Address,

105 11th Street, Keokuk, Iowa

Buy The SIMPLEX 1915 Model MIXER



Combining the good features of both batch and continuous mixers in one machine.

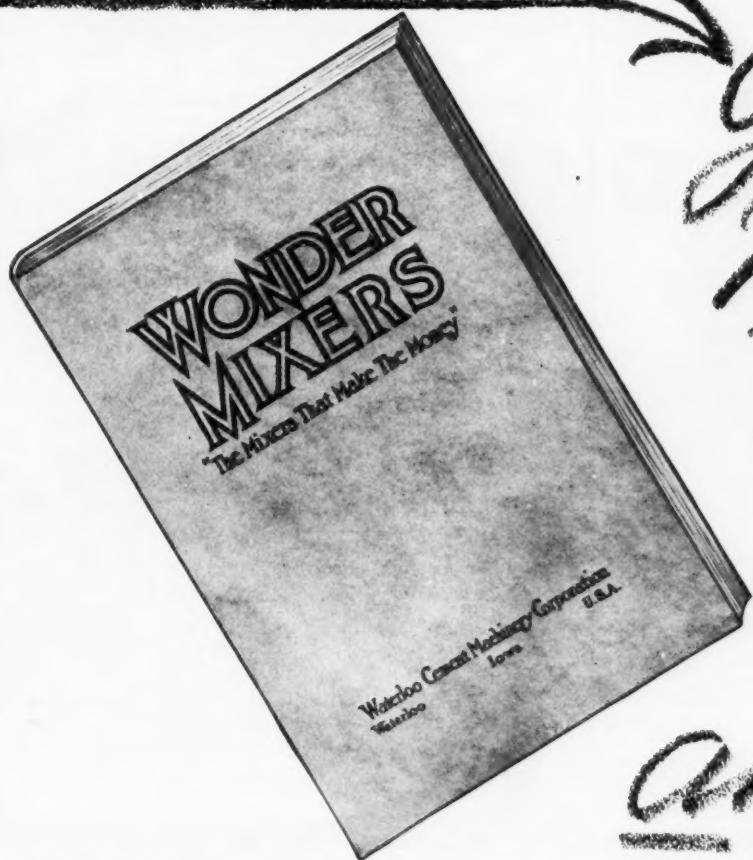
The best feature of the Batch Mixers is the rolling of the materials. The greatest advantage of the Continuous Mixer is the automatic measuring and feeding of the materials.

Only one machine combines these two features—the SIMPLEX. It's the happy medium between the two types of mixers, giving the points of advantage claimed by each, and eliminating the faults of both.

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Reliable Agents Wanted.

The Miles Mfg. Co.
309 E. Franklin St. JACKSON, MICH.



*Get this
New Book
before you
decide
upon
any mixer*

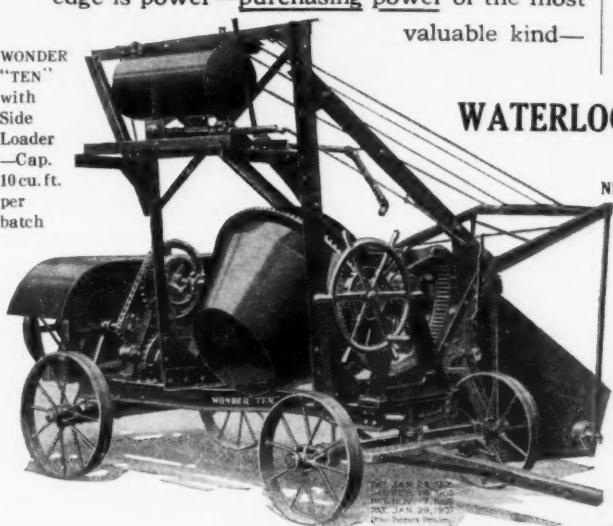
Tells "The Reason Why"

Some of the most important engineering and contracting firms are sacrificing their "just as good" machines and buying **WONDERS**—

Why others—thousands of them—started with one **WONDER** and now use several—20 to 40 in many instances—

These contractors know—they've been initiated—This book gives you that knowledge, and knowledge is power—purchasing power of the most valuable kind—

WONDER "TEN"
with
Side
Loader
—Cap.
10 cu. ft.
per
batch



Shows how to make 1915 profits larger and surer—
Puts you next to the **QUALITY** idea—

Also **SERVICE**—on the job, and nation-wide agency service—the kind that laughs at emergencies—

It shows the "How and the Why" of each part and the superiority of each machine as a whole—the **LITTLE WONDER "FIVE"** and the **WONDER "TEN"**—

And why the **WONDER**, the original of this type, is still the best—

But Get the Book—it's **FREE**—

Fill out the Coupon and mail it—and you'll be glad.

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NEW YORK PHILADELPHIA CHICAGO SAN FRANCISCO

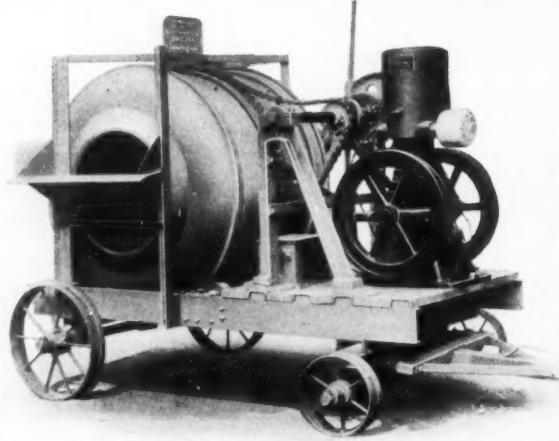
Waterloo Cement Machinery Corp'n
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Please send me without obligation, your New Catalogue of **WONDER MIXERS**.

Name _____

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Ideal Cincinnatus Mixers

A small mixer built along the same lines as the big fellows.

Light, portable and instantly ready for use.

Built in seven and twelve ft. capacities (loose materials). Supplied with Batch Hopper, Power Loader or Rear Discharge Paver.

Selected by contractors because of their convenience, compactness and capacity for work.

Ideal Concrete Stone Machinery

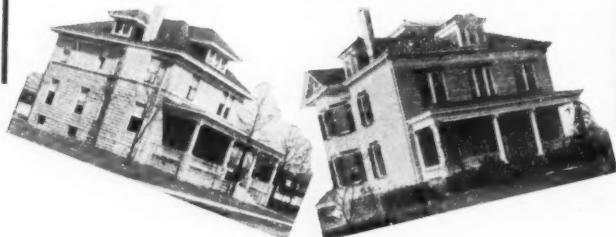
The equipment which makes blocks that are exact in size, exactly square and have clear sharp face designs.

Ideal machines handle a wide range of high class work at low cost.

We make hand and power equipments for block and brick. Send for literature.

Ideal Concrete Machinery Co.

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Contractors, Builders,
Mechanics, Electricians
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SEBCO SCREW ANCHORS

They are made of composition metal with two expanding shields. When the screw is tightened the shield expands with each turn, making it impossible to work loose or pull out.

Our illustrated catalogue illustrates and describes the many uses for our Expansion Shields. Send for this catalogue to-day and we will also send you a free sample of our Screw Anchor.

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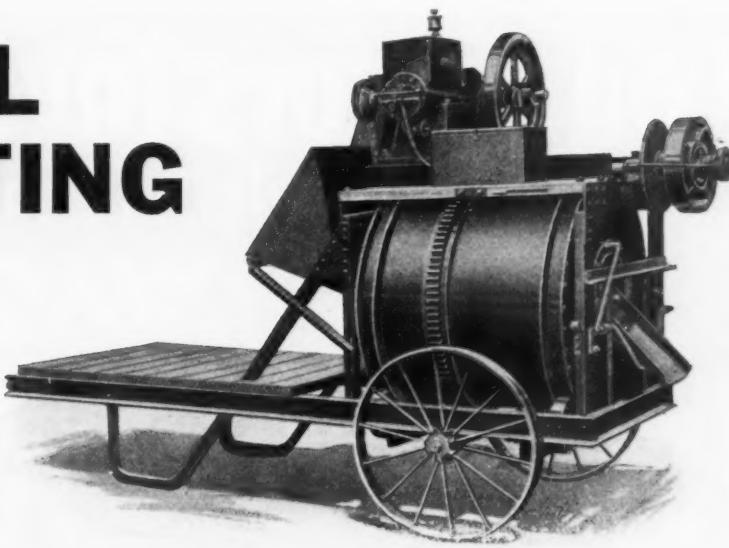
The more good tools you use the more good work you turn out, and every "YANKEE" adds to your efficiency as a mechanic. There are now over a hundred "YANKEES" and more coming. Won't you get acquainted with the whole line? Our Tool Book will do it. Start a postal after it; we'll do the rest.

Your dealer sells the "YANKEE."

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GENERAL CONTRACTING

Get into it this Year



Cover the Whole Field

Cover the Whole Field of Contracting in your town. Broaden out—be the Big Construction Man. Have them come to you for all construction work—nearly all General Contractors were formerly builders. They started in the bigger field by investing in a Concrete Mixer and doing their own concrete and cement work instead of sub-leasing it to some Concrete Contractor and having to divide the profit. They soon found that they could land concrete jobs they couldn't touch before; they could underbid other fellows who had to sub-let their concrete work. They could construct concrete buildings—they could even build Concrete Roads. They combined Modern Concrete Practice and their Building Knowledge. Below are a few of the things a Concrete Mixer will enable you to build:

Concrete Foundations, Concrete Buildings, Miscellaneous Concrete Structures, Cement Sidewalks, Cement Floors, Cement Silos, Viaducts, Culverts, Bridges, Dams, Concrete Roads, Etc.

The No. 1 ARCHER SPECIAL CONCRETE MIXER

has started many a builder on the road to greater prosperity as a General Contractor. Why? Because it's the sturdiest, most compact and portable mixer ever manufactured. Every detail to make it the handiest and most economical to operate and carry around have been carefully worked out. Its exclusive features—End Discharge—its balancing arrangement and Platform enable it to do many things impossible for the average mixer to do, such as Spout concrete directly into the Forms, as on sidewalks, foundations, roads, etc. On account of its balance, it is very portable. Easily loaded, simply wheel barrows on platform and dump into hopper. It is all Gear driven, reducing friction and vibration to the minimum. THE ARCHER has a capacity of 4½ cubic feet of wet concrete per batch and a better mixer for all-around work isn't made. Start this Spring. Don't put it off any longer. You're ambitious and you always wanted to grow. Let the Archer be the means of making your ambitions a reality. Write to us, we want to hear from live, progressive Carpenters and Builders. Start the ball rolling. Write to us today for information and details.

Come and see us at the Chicago Cement Show. Booth 92.

**ARCHER IRON WORKS
2430 West 34th Place
CHICAGO**



Contractors Investigate This Wonderful Combination Mixer

You need and want every device that will enable you to save time and money in construction work. That's why the Northfield Mixer—the mixer that does the work of three distinct machines—is worthy of your instant attention and investigation.

Listen—No difference how much or how little construction work you do, the Northfield Mixer will be a money-saving, money-making, business-getting investment for you. There's no job too small for the economical use of this mixer and the more jobs and the bigger jobs you have, the more useful and convenient you'll find the Northfield.

The Northfield is a batch mixer that will mix, on slush concrete work under normal conditions with a five-man crew, an average of between 30 and 60 cubic yards of concrete per day. That means that it mixes more than three times as fast as concrete can be mixed by hand.

It will absolutely do better and more thorough mixing than any mixer made, bar none.
It's the only mixer that is absolutely successful when turned by hand power. Mixes plaster thoroughly—does it more economically than it can be mixed by hand, does it better and in one-half the time. **It's the only machine that will mix plaster and do it right.**

Machines In

Sold At a Price Never Before Made

We offer the Northfield Mixer to you at a price that makes it the biggest value of any piece of machinery you ever bought.

There isn't a mixer that will equal the Northfield at concrete work that sells at less than \$300.00, and there are none at any price that will mix concrete, mortar and plaster with equal success. This mixer stands absolutely alone both in what it will do and in first cost to you.

We absolutely guarantee the Northfield Mixer to do exactly what we say it will. Let us prove that to you.

NORTHFIELD IRON CO.
402 Water Street Northfield, Minn.

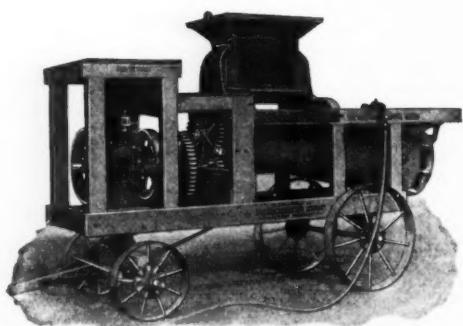
Write for FREE Catalog

Get our Mixer catalog. Write for it today. Tells you just how this mixer is made and why it will do what it does.

Cash or Easy Payments

We'll sell you a mixer almost any way you want to buy. Read our sales proposition in the catalog.

"The Coltrin will Mix Concrete Cheaper and Better than any other Mixer I have ever seen"



No. 9 Coltrin Mixer

Beloit, Kansas, Nov. 26, 1914.

The Knickerbocker Co., Jackson, Mich.

Gentlemen:—I have used my Coltrin Mixer seven years and must say it mixes as well now as when new. All the expense for repairs has been \$9.80. The Coltrin will mix concrete cheaper and better than any other mixer I have ever seen. I will bet on the Coltrin for speed and quality every time.

Yours truly,
J. W. TRON.

The Knickerbocker Line Concrete Mixers

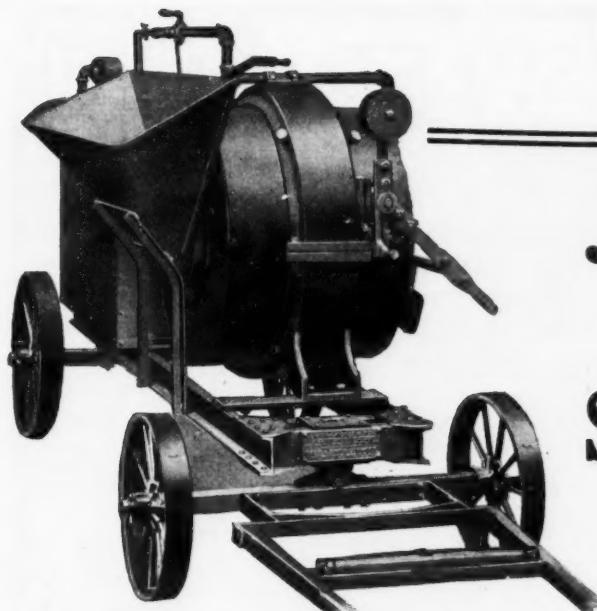
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The "Coltrin" Continuous

The "Knickerbocker" Batch

See our mixers at Chicago Cement Show, Coliseum, Feb. 10-17, '15, Spaces 55-56

The Knickerbocker Co., Jackson, Michigan



\$246.00

F. O. B.
Milwaukee, Wis.

Just Out— THE NEW SMITH MIXERETTE

YOU, Mr. Contracting Public, demand a light, portable and inexpensive mixer for the small concrete work—a mixer that will hold a five-foot batch of loose material or three feet of mixed concrete.

The New Smith Mixerette hits the very center of this demand. It has all the above features and with them embodies **Smith Quality**—the same high standards that were in evidence in the **Big Smith Mixers** that achieved world renown at Keokuk and Hauser Lake, on the Sea Wall and Causeway at Galveston, on the Key West Extension of the Florida East Coast Railway, on the New York Aqueduct, out at Arrowrock and on a multitude of other famous projects.

SMITH MIXERETTE

This machine has two improvements which are bound to make it famous. The main drive ring and driving pinion are entirely enclosed and protected against dirt and dust. The big gear ring encircling the drum fits snugly into the outer casing, the machined surfaces forming a perfectly true sliding bearing. A constant supply of grease keeps this bearing clean and cool at all times.

The other **big feature** is the "ropeless" power loader. Being gear driven, the skip lifts quickly and smoothly. Having no hoisting cable or sheaves, the twisting, jerking motion common to loaders of the pivot type, is entirely eliminated.

The price of this machine, as illustrated, is only \$315.00. Equipped with low-down, gated batch hopper in place of the power charger, \$246.00.

Fill in your name and address in the space below. Tear out the whole ad. and mail to us, and without any obligation on your part, we'll send you our **special proposal** and Mixerette Booklet No. 116-A.

\$315.00

F. O. B.
Milwaukee, Wis.

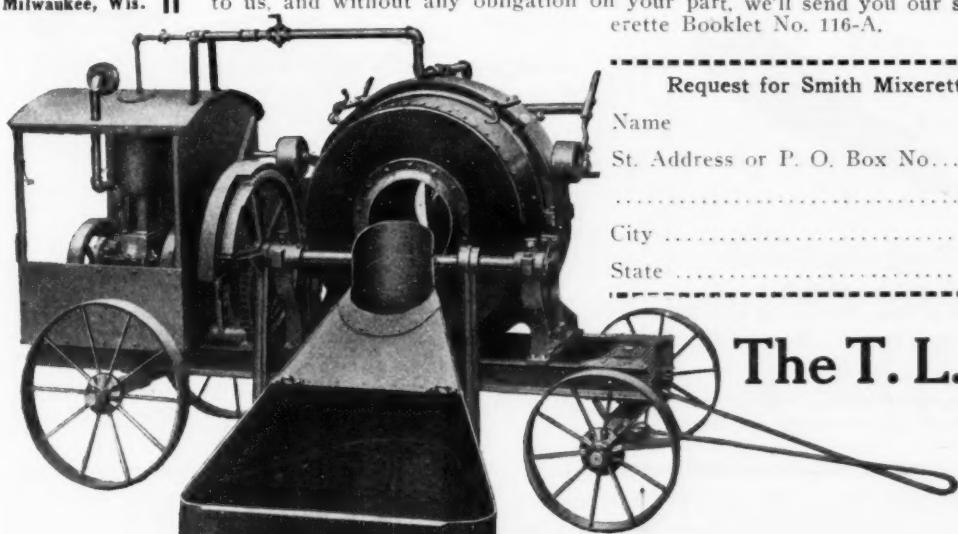
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St. Address or P. O. Box No. _____

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The T. L. Smith Co.

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DOUBLE SPEED CEMENT MACHINERY



For Contractors and Lumber Dealers

The Machine that will put you in the Cement Block and Brick Business right---without competition---the Machines that pay for themselves in 15 working days

DOUBLE SPEED POWER TAMPER

With one of these DOUBLE SPEED power tampers you can turn out 1,500 blocks or from 12,000 to 15,000 bricks per day. It only requires a 2 h.p. gasoline engine or electric motor to drive it. This tamper can work over the brick or block machine by simply changing the feet. Has automatic device for removing surplus material after blocks are tamped, which means a perfect face and smooth back on each block.

DOUBLE SPEED—Block Machines

will make twice as many blocks or building slabs as any other machine. This machine automatically makes two blocks or two slabs at each side with only one operation of the lever. This is a face-down machine and can produce all kinds of beautiful designs, with granite faces, marble dust, etc. All styles of Blocks and Slabs can be turned out double the speed of any other machine.

DOUBLE SPEED—Cement Brick Machines

Make sixteen bricks at one time—think of it—delivering eight bricks at each side of the machine with one operation of the lever. It is also a face-down machine, allowing all kinds of ornamental faces to be produced on it. This machine actually pays for itself in 15 working days.

A New Field—Big Profits—Write Today

Don't delay. Get into this branch of the building industry. With the DOUBLE SPEED machines you will have no competition. Write now for complete information and details.



**NORTHWESTERN MANUFACTURING CO.,
SIOUX CITY, IOWA**

1853
BUCK
BROS.

Fine Beveled Edge
Shank and Socket

Chisels



Tang and Socket Butt Chisels

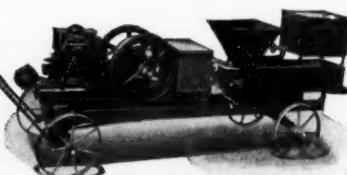
Plain and Beveled Edges

Send for illustrated Catalog

Buck Bros., Millbury, Mass.

Why Pay More?

\$100 buys a regular Builders' Mixer that's reliable for all block, brick, foundation or sidewalk work.



SIMPLEX JUNIOR MIXER

is the best ever sold at the price. Perfect in every way. Economical and mixes thoroughly. Low-charging—Labor-saving. Top of hopper is only 2 feet from ground when mixer is on skids. Easily hauled around.

On Trucks With Engine, \$100. On Trucks Without Engine, \$55.
On Skids Without Engine, \$35.

*The SIMPLEX Is Sold At Your Price, Guaranteed.
FREE TRIAL OFFER. Write Us Today.*

WESTERN MFG. CO., Oskaloosa, Iowa
We Manufacture All Types of Mixers, also Culvert Forms.



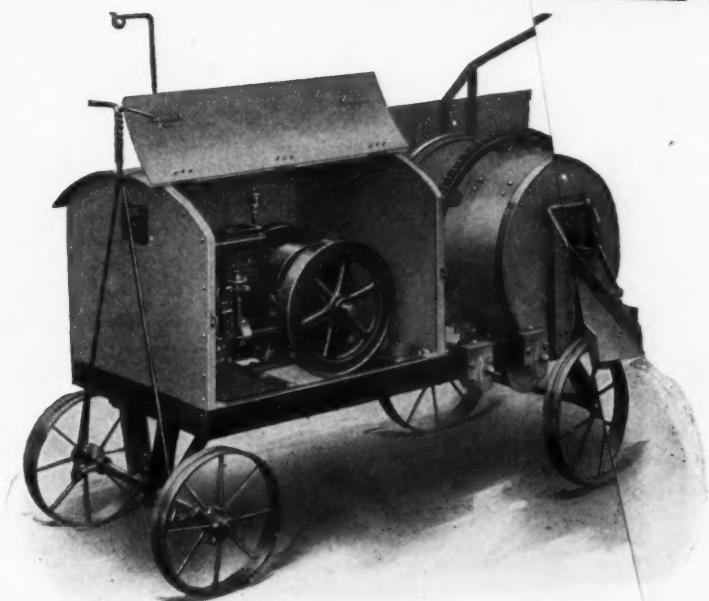
Made in 3 sizes—2-32"—3-32"—4-32" points—Price 10 cents each.
If your hardware dealer does not sell "SYRACUSE" Nail Sets, we will send you one or more at 10 cents each. Specify the size you want.

SYRACUSE TWIST DRILL CO., Syracuse, N. Y.

"SYRACUSE" SUPERIOR NAIL SETS

Guarantee satisfaction. All points are thoroughly tested on steel before shipped. If you want service get "Syracuse" Nail Sets.

THE *Atlas* MIXER



CAPACITY—5 ft. batch, easily fifty cubic yards per day.

“Notice”

Our success with the Atlas Mixer,
and the large sales made the past year have
enabled us to reduce factory and selling costs.

We are going to share this extra profit with our customers.

You cannot afford to buy any Mixer until you have
asked us the price of this machine **for 1915.**

Atlas Engineering Company

783 Thirtieth Street

MILWAUKEE, WI.

The Little Builder

"BALL BEARING"

Concrete
and Mortar
Mixer

No job is too small to handle at a profit and very few too large for the *LITTLE BUILDER*. It is a mixer you can hardly afford to be without. Job which you have previously sub-let or mixed by hand, can now be done with your own men much quicker, with no delays, and the profits go into your own pocket that heretofore went to others. Use it for your floors, steps, foundations, drive, form work—anything in the concrete line. *It is also a good mortar mixer.*

The ease with which it can be handled and moved around from job to job makes it most convenient for building operations, and the low price places it within every builder's means. It should be a part of your building outfit. It costs only a few cents a day to operate, and saves two to four men. It will pay for itself in a week's time.

\$165⁰⁰

Complete as Illustrated

\$265⁰⁰

With Power Loader

\$30⁰⁰

For Hoisting Attachment



Laising Concrete Mixers

The Little Builder

is an easy mixer to operate because the leveling height is just right. Men are less tired at the end of the day than on one side and discharged on the other if desired. The mixer is low of the wheelbarrows. The mixing drum is never in the way, which means a quick mix. It is easy to clean and gives a good mix. A high class engine is furnished—the best finished engine of

power. It is strong and durable, made of steel throughout, with few parts to wear out. Being ball bearing heels for easy hauling; ball and socket

for rough roads and short turns; 4-inch steel channel frame, steel wheels; steel axles, etc.

Can be furnished with hoisting attachment for raising lumber, lath, brick, etc. The engine can be taken off quickly and used for other purposes if desired.

Send for the circular today

Write for Concrete Machinery Catalog

We also manufacture larger power mixers, hand mixers, block machines, brick machines, cap and sill moulds, wheelbarrows, mortar trays, hods—everything in the builders' line. Write for catalog.

Specify just what you are interested in

LANSING CO., 1002 Cedar St.,

Branch Houses at: New York Boston Chicago Philadelphia Minneapolis Kansas City San Francisco

Lansing, Mich.

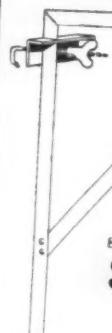
Courtney Scaffold Brackets Are Safe

They carry a ton—Last a Lifetime—They save enough time and money to pay for themselves—Easily and quickly put up and taken down by one man.

Our crosshead keeps the scaffold from swinging—no extra charge for this feature.
\$15.50 per dozen for three foot brackets—if cash comes with order.

To Save Money, Order While This
Advertisement is in Your Mind.

American Seal Scaffold Co., Dept. 5, Detroit, Mich.



The Hammer Carpenters Made Famous



Our "VANDOR VANADIUM" Nail Hammers in four sizes, No. 21 1/2, 16 oz. Standard; No. 22, 13 oz. General Purpose; No. 23 1/2, 10 oz. Finishing; No. 72 1/2, 16 oz. Ripping Style. We will send either size Parcel Post for your Dealer's name and \$1. This Hammer we insure for life. Made for hard work and lots of it. You can return it any time if it proves defective and get a new one.

This Hammer is warranted to draw anything from a headless brad to a spike. Drop Forged from the toughest Vanadium Steel. Second growth hand shaved Hickory Handle. Tempered in oil. Easy to work with. Get one today. Remember only \$1 and your dealer's name for either size, 16 oz., 10 oz., 13 oz., or 16 oz. Ripping. Mail your order NOW.

VAN DOREN MFG. CO., INC. Chicago Heights, Ill.
(Vanadium Dept.)

To Which Class Do You Belong?

WE MATCH YOU IN ANY

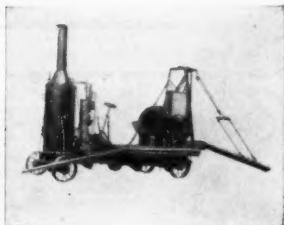
MEET US AT THE CEMENT SHOW

EIGHTH CHICAGO CEMENT SHOW, COLISEUM, FEBRUARY 10-17, 1915

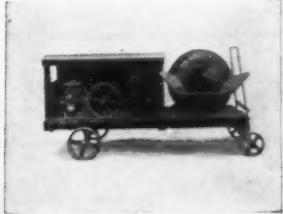
Booths 193-4-5 and 6.

OR AT OUR OFFICE AND STOREROOM, 1 BLOCK NORTH

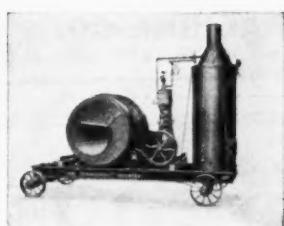
*We're all of
"The STANDARD"
Low-Charging
Line*



"HEAVY WEIGHT"



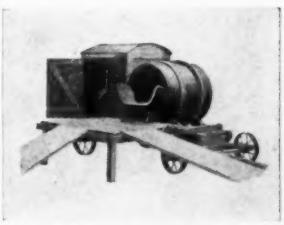
"LIGHT WEIGHT"



"MIDDLEWEIGHT"



"FEATHER WEIGHT"



"WELTER WEIGHT"



"THE ROUNDS"

**Send in before the show for Catalog No. 44-1, then you can see just
what are the "numbers" on our "bill."**

Any of our branches can supply you with this "program," mail your name and address to the nearest one.
If you are not going to the Cement Show you certainly want to know what our "attractions" will be.

THE STANDARD SCALE & SUPPLY CO.

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1345-1347 Wabash Ave.

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TRADE **SIMPLEX** MARK
Reg. U. S. Pat. Office

ROOFING NAILS
HOLD!

FREE SAMPLES AND CIRCULAR ON REQUEST
H. B. SHERMAN MFG. CO. Battle Creek, Mich.

House Moving Pays Big

In every town and city throughout the United States there is a remarkable opportunity for a good live, wide-awake man to engage in the house moving business. I don't care if there are one or more house movers in your town now. I can show you how to

Clear \$100 to \$300 On a Job

With the plan I have to offer you, you can get the business in spite of any and all competition; besides, I can show you how to develop your business in a profitable, moneymaking way that other house-movers don't think of. Write me today. Ask for catalog (B) and full details of my unusual proposition.

E. W. La PLANT, President
La Plant-Choate Mfg. Co.
620 Eastlock Court
Cedar Rapids, Iowa



A STUCCO MACHINE

A Durable Finish---Low in Cost

Here is a machine that will apply Cement Plaster or Stucco in an even, uniform coat. Taking only a fraction of the time used in applying Stucco by hand and making a wall that is stronger and far superior to hand work. Can be applied in all weather. A good Stucco job is beautiful and everlasting.

Stucco as Cheap as Paint

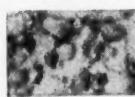
With this Automatic Stucco Machine you can apply a coat of durable Stucco at the cost of a good painting job, with the advantage of endless durability. Why not get in on the remodeling business? This machine can do the work of twenty men doing stucco work by hand and do it better. For Overcoating and Remodeling, stucco is just the thing. The most pleasing effects obtained. Completely transforms a building. You can make old buildings look like new.

SPECIAL INTRODUCTORY OFFER For a limited time, to introduce to builders, we will sell this machine at a discount of 33 1/3% from regular price. Get in on this early. Write for further particulars and free booklet.

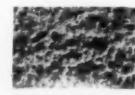
AUTOMATIC STUCCO MACHINE CO.

VANDERBILT AVENUE BUILDING, 51 E. 42d STREET

NEW YORK CITY, N. Y.



Pebble Dash or
Fleated Work



Stippled Effect

Look Before You Build

Or write us for information, Catalogues, Prices, Etc.
On different lines of material, supplies and equipment.

Building Material Exhibit

Entire 2nd Floor—Insurance Exchange

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City _____

Date _____ 191 _____

Gentlemen:—Kindly procure for me free of charge catalogues and prices on the following:

Name _____

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The Story:

*He Was a Carpenter —
Bought a "Big-an-Little" Mixer —
Now has 3 "Big-an-Little" Mixers —
Enjoys a Big Contracting Business*

The picture shows the kind of work he's doing now.

We'll send this man's name on request. It is only one of the many instances where the Jaeger Big-an-Little Mixers have enabled Carpenters to handle bigger work—to branch out and make more money.

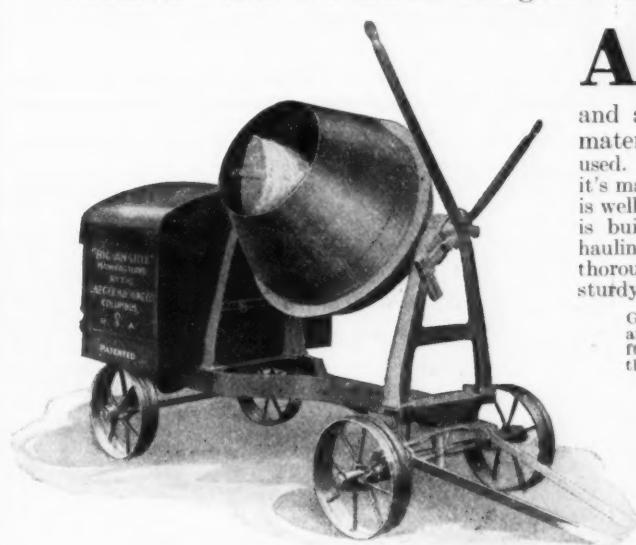
The Jaeger Big-an-Little

handles big jobs and little jobs most efficiently. If you are looking for a Mixer that is reliable—that will deliver the goods under all conditions—get a Big-an-Little.

A Mix-a-Minute

and a capacity of from 5 to 6 cubic feet of loose material per batch depending on amount of water used. The Jaeger Big-an-Little is built for service because it's made of best materials by expert mechanics. The engine is well made and is simple to operate. The entire machine is built to withstand hard knocks, continual service and hauling around. The mixing arrangement and drum guarantee thorough accurate mixtures. The Jaeger Big-an-Little is a sturdy, reliable machine that will serve you well.

Get our Large Catalogue, it takes up every part of the Big-an-Little in detail from the Jaeger Little 3 ft. to the Big 10 ft. Mixer with or without hoists. It will convince you that it is the Mixer for you to buy. Write today for it.



The Jaeger Machine Co.
318 W. Rich St.
COLUMBUS - - - OHIO

Put These Windows In the Next Hog House You Build

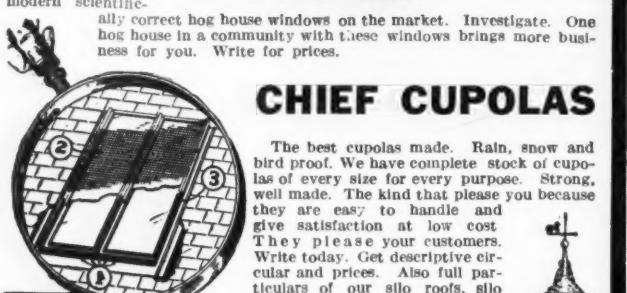
They are made to use on any hog house, old or new. Easy to install. They will please the man you are building for. They will make a profit for you.

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We want to acquaint all Carpenters and Builders with this new invention, so we will send without obligation a free sample to those sending us their name and address. Make your own demonstration; we know you will be satisfied with the result. We have solved the Screw Hole Problem. Send today.

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A light floor or veneer Scraper with wood face to lessen friction.

A useful and convenient tool, low in price.

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DISSTON No. 77

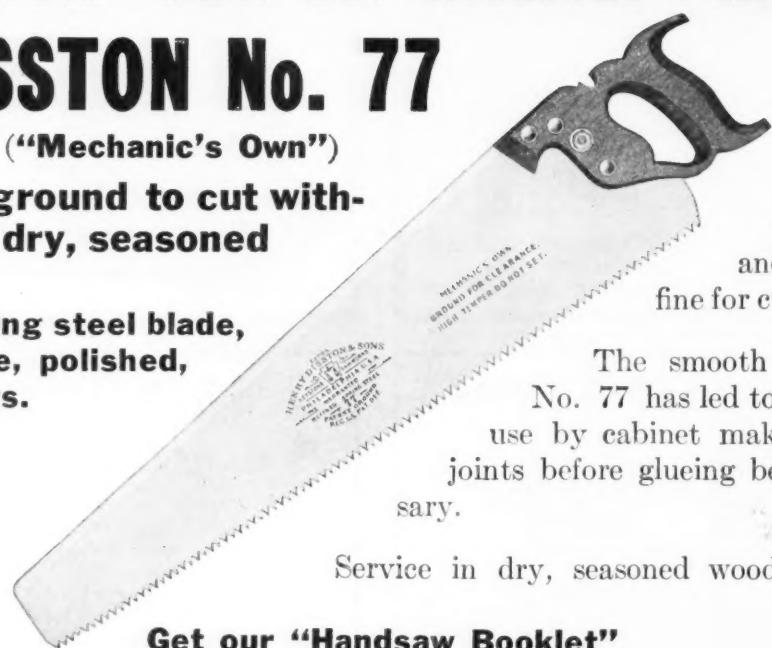
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Specially ground to cut without set in dry, seasoned wood.

Refined spring steel blade, apple handle, polished, brass screws.



Reg. U. S. Pat. Off.



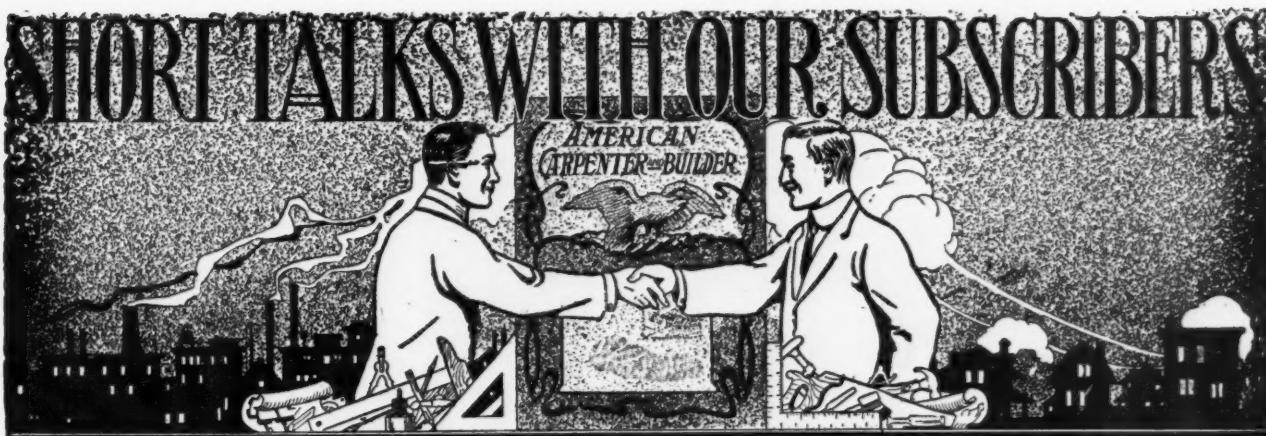
Cuts rapidly and smoothly—fine for cutting mitres.

The smooth cut of the No. 77 has led to its extensive use by cabinet makers—planing joints before glueing being unnecessary.

Service in dry, seasoned wood warranted.

Get our “Handsaw Booklet”

Henry Disston & Sons, Inc., Philadelphia, U.S.A.



Start the Building Season Early

BOOM times ahead!

Charles M. Schwab, president of the Bethlehem Steel Corp., just home from Europe, states that the warring nations have already placed contracts in the United States for more than \$300,000,000 worth of supplies. He goes on to predict that we in this country are on the threshold of the "greatest period of prosperity in many years."

"I look to see a big revival of business in every line," he said.

This, of course, means busy times ahead for builders. There will be new factories and stores, new homes and new farm buildings. As usual every one will want his building done all at once and in a big hurry, just as soon as the good weather of late spring strikes us.

Can't we get things started *right now*? Suppose we all talk early building—suppose we all take up the cry "BUILD NOW"—also make it a point to explain to all prospective builders the advantages and saving of beginning work before the big rush sets in.

The Public Needs Reminding

THE building public needs to be told about the savings to be made by winter and early spring building and repairing. Then it needs to be reminded. It does not know that it will cost less to build a new house; lay a new hard-wood floor over a pine floor, tear out a partition, making one room out of two and put in a new stairway in an old house. If it did, some of the building that is now done in the summer would be done in the winter. What is more important, repairs that are scared away by summer prices would be made because of the low prices of winter.

Let's tell prospective builders these things. Then remind them of them.

The results will be good for all: The builder will save money; the mechanics' annual incomes will be more—this helps the whole community; and people handling building materials will do more business and reap better profits.

Prices Are Down

MOREOVER, building material prices right now are down. Point that out. It is doubtful if the general public realizes the saving that can be made in buying building lumber now, compared with a year or two ago, or with prices that lumber will command as soon as general business gets on its feet again. This is really the opportunity for the modest home builder to buy materials and start the house that he has always wanted to own. His dollar will buy more lumber now than for a good while past or probably a long time in the future.

And what is true of lumber and millwork prices also holds good for the other large items of building material cost.

Close Bids to Keep Men Busy

ALSO cite the saving in labor cost by building now. Don't permit *all* your clients to delay until the big rush comes. You can afford to quote some interesting prices to get the work moving NOW!

As a well-known Detroit builder puts it, Geo. E. Booth of the MacLean Building Co.—

"The building problem is a good deal like Saturday night shopping. When so many thousands insisted on shopping on Saturday nights, the stores were congested and the customers received scant consideration and inadequate service.

"It took only a short time to educate the public to shop on week days, and now it is safe to say that no buyers want to go back to the old order of things, even if they had an opportunity to do so. They now get better service, far more attention, and consequently are more genuinely satisfied with their purchases.

"With building it is the same. If you build when everyone else wants to do so you get a less satisfying measure of service. It is impossible for the architect and contractor to bestow the careful inspection on a job that is being rushed to completion in a whirlwind of building, as they can when things are going at a more reasonable pace.

"Build now; don't wait for the summer months!"

Wishing you all a Busy and Prosperous New Year.

Editor AMERICAN CARPENTER AND BUILDER.

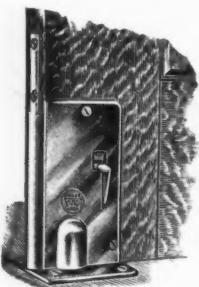
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Do you specify a spring hinge with distinctive features which will appeal to your client and assure satisfaction to all concerned?



Chicago "Relax" Spring Hinges

are in great demand. They are substantial in construction and readily applied. The EXCLUSIVE FEATURE of spring action release, allowing the door to be placed at any desired position and automatically re-engaging when the door is closed, is of recognized merit and utility.

Send for Catalogue C 29. It fully illustrates and describes the most complete line of Spring Hinges manufactured.

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Cabot's Sheathing and Deadening Quilt

The Cold-proof, Heat-proof, Sound-proof and Fire-retarding Lining

"Quilt" is a matting filled with dead air spaces, and one layer is as warm as twenty-eight layers of common building paper. A house lined with it will always be warm and save coal. Floors and partitions lined with it will stop the passage of sound. Roofs lined with it will keep cool

in summer and prevent heat from escaping in winter. It will save coal enough to pay for itself every two winters as long as the house stands.

Send for a sample and catalog.

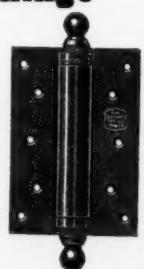
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have the weight-supporting bearings correctly located to liberate the action of the springs, reducing breakage and increasing spring power, preventing unequal wear of the barrels, and giving practically unlimited durability. Bommer double-acting spring hinges open alike at both casings and both doors when both doors are opened.

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on the inside will resist water
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Pits.

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The Standard Paint Co.

NEW YORK
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American Carpenter and Builder

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The publishers of the American Carpenter and Builder will not knowingly publish any advertisement of a misleading character nor accept advertising from any individual, firm or company whose business methods are open to question.

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VOL. XVIII

JANUARY, 1915.

No. 4

MISTAKES are costly, but usually those making them do not pay for them.

WATCH your work, not the clock. A long day's work makes a long day short, and a short day's work makes the face long.

⊕ "Hurry Up" on a New Building

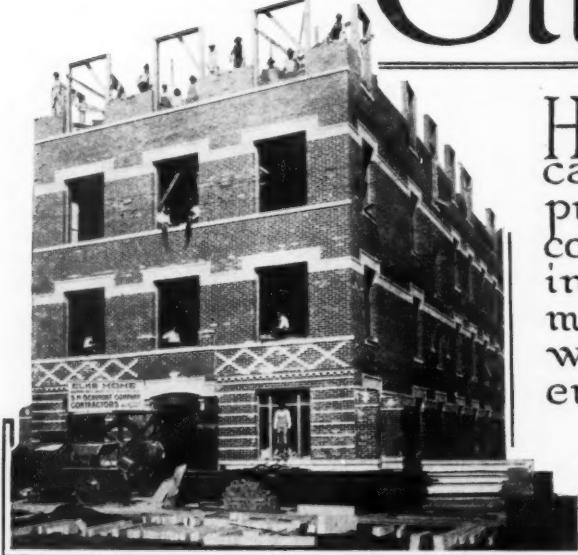
A NEW storehouse 210 by 80 feet and 45 feet high, now being erected by the Aberthaw Construction Company, Boston, for the Fore River Shipbuilding Company, Quincy, Mass., is so urgently needed that unusual measures have been taken for speed. The drawings were given to the Aberthaw Company at 11:00 a. m. Monday, November 9th, and the estimate on the cost was in the hands of the engineer at 3:00 p. m. the same day. The contract was awarded the first thing Tuesday morning, steel was detailed Tuesday and Wednesday, and all of the steel for the building was ordered between Thursday and Saturday, shipments of steel being started from the mills on Monday, the 16th. The steel schedules were so worked out that mill shipments could be made for the greater part of the requirements, only that needed most quickly being taken from local stocks at the necessarily higher price.

Work on the new job was started on "Friday, the Thirteenth," an old building on the site being demolished during Saturday and Sunday, ready for excavation Monday morning. Excavation is being carried on by means of wheel scrapers. The concreting tower—a regular Aberthaw steel structure—is equipped with electric hoist. It had to be located about 15 feet away from the building to accommodate an existing railroad track close alongside the building site.

The storehouse consists of basement, first, second and third floors, and a mezzanine between the first and second. The foundations, basement walls, all of the floor slabs and the roof are of reinforced concrete. The walls of the building are of brick; the columns and floor beams, as well as roof girders, are of structural steel.

One interesting problem in connection with the ordering of the steel had to be met when it was found that immediate shipments of the shapes and sizes wanted could not be had. The engineer of the structural steel concern, with one of the Aberthaw engineers, partially redesigned the steel work in order to fit shapes and weights which could be obtained most quickly from the steel maker.

"Thanks to my



Hundreds of former carpenters, now prosperous general contractors tell how investing in a concrete mixer opened their way into the larger work



THANKS to my concrete mixer," writes Wm. C. Allen, Contractor and Builder, of Natrona, Pa., "I have been able to get more work in the concrete line than I ever dreamed of, before I bought my little machine."

There in a nut shell is the whole story,—the concrete mixer brings in *more work*, and then handles it at a profit.

We have been making a study of concrete mixing equipment—not on the demonstration floor, but right out on the job. Also, we have been questioning build-

ing contractors and prosperous general contractors.

Two facts have come out—and they are rather surprising until you have stopped to think of them: *First*, we find that nine out of every ten general building contractors were originally carpenters; and, *second*, it turns out that investing in a concrete mixer was the initial step by which the majority of these men advanced from carpentry work into the larger field of general contracting.

These facts are both very encouraging, since our carpenters are still the most intelligent, ambitious, and broadly experienced of all building tradesmen—what other carpenters have done in the past, these can and will do; also concrete work is more plentiful now than ever before. Opportunities are being offered in nearly every building locality that wide-awake carpenters and builders will not be slow to grasp.

It is a fact that the investment in a concrete mixer has been the turning point in the building business of thousands of carpenters. Take the case of J. C. Davidson, of Columbus, Ohio, for instance.

Seven years ago Mr. Davidson was a carpenter in Newark, Ohio. He went to Columbus as a carpenter; and, being a progressive man, was very soon selected by Architect Packard of that city to be his superintendent on construction work. From this he went into the carpenter contracting business and later purchased a concrete mixer and did this work also. Now he is the owner of three mixers



With a Record of 60 Years' Building and Contracting, the J. H. & R. Shannon Co. Have Thrown in Their Lot with Concrete Construction. They are Now Specializing in that Line. They say "No Work too Large or too Small in Plain, Ornamental or Reinforced Concrete." This 5-foot "Little Boss" is Their Favorite Mixer.



Grade Separations and Railway Viaducts These Photo Shows the "Archer" Mixer at Work on a Dolese Outskirts of Chicago.

Concrete Mixer

Reported By
Bernard L. Johnson
Editor-American-Carpenter-and-Builder.

Illustrated by numerous photographs of mixing equipment, "on the job," handling a great variety of building work.



complete with hoists, which he uses on all sorts of construction work, as he now takes any job in concrete. One of the last jobs Mr. Davidson did is a factory building for the Columbus Die & Tool Co. This is positively the most expensive construction work we have ever seen go into a factory building; and it is surely a very creditable job for Mr. Davidson to have. You will note by the photograph of this job in course of building that there does not seem to be very much carpentry work, but the contractor was originally a carpenter and a carpenter contractor as well.

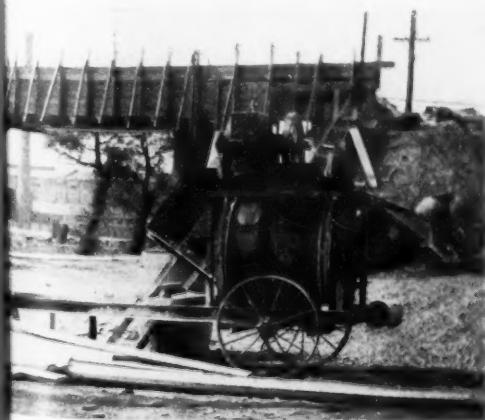
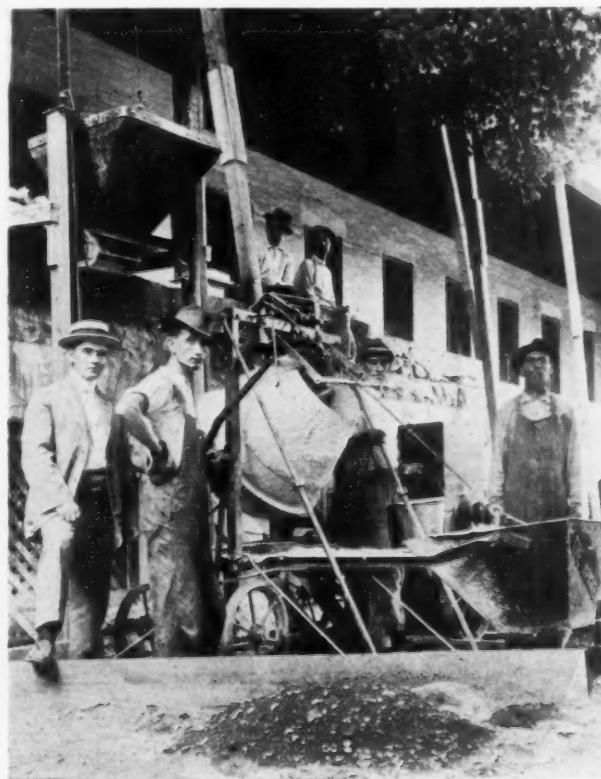
It is generally acknowledged that the best profit in an ordinary building contract is in the concrete work. Foundations, basement floors, walks, steps, cement stucco finish—all of these are important items in every building contract. To feel obliged to sublet them—to turn over your profits to some one else, doesn't seem good business.

There is nothing difficult or *mysterious* any more about concrete, as there used to be. Practical men have learned the few clear and simple rules that have to be followed to insure good work. Following these one can't go wrong.

ested in doing our work the *easy way*; especially when the *easy way* is also the *best and most thorough way*.

The concrete mixer is so far ahead of the old shovel board way that there is absolutely no comparison. On the scores of quality, speed, ease, and cost, machine mixing wins.

These are not idle claims. We have collected evidence from hundreds, nay, thousands of building contractors in all parts of the United States and Canada; some by word of mouth, some by personal letter; and they all bear the same testimony; i.e., thorough mixing



These Invariably Mean Large Concrete Contracts. This Sheppard Railroad Street Crossing in the Western

Of course the man who figures on handling his concrete work by the old style shovel gang method of mixing probably thinks concreting is an awful job—doesn't want it—only takes it under protest. He is overlooking the best part of the job, if handled right.

We are all inter-

Contractor Wells and His "Winner" Mixer Equipped with Side Loader and Hoist at Work on a Big Hotel Job at French Lick, Ind. Ten Men with this outfit in Three Hours Mix and Place in the Upper Floor Forms 20 Cubic Yards of Concrete.



Concrete Silo Builders Require a Good, Light, Portable Mixer. The "Atlas" Mixer is Giving Good Account of Itself on this Job.

is essential to good concrete work, and a mechanical mixer is essential to thorough mixing. The concrete mixer makes concreting a joy; the man who owns one just naturally reaches out for more work; and it comes to him easily. Almost before he knows it he is handling a big line of Portland cement concrete business.

The possession and use of a concrete mixer gives a man a great advantage over his competitors. The



Henry Ford is Spending \$3,000,000 Improving His 5,000 Acre Farm Near Detroit. Two "Lansing Broncho" Mixers are being Used by Contractor Van Tyne for Putting in Concrete Foundations, Floors, Swimming Pools, Steps, etc.

prestige of his better equipment brings him work and makes him well known.

In evidence of this we reproduce here part of a letter from the Davis Concrete Co., Auburn, Wash.:

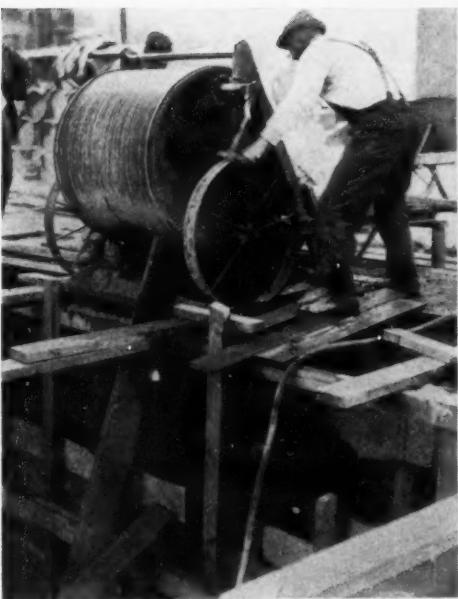
"We got a 300 yards job today from a man who saw our machine mixing and was convinced that it does much better work than hand mixing."

As a view of the concrete mixer as a business getter for carpenters and building contractors, this is convincing. Another of the same sort is the following from A. B. Nichols, of Good Thunder, Minn.:

"I cannot praise the machine enough. It has proven itself



J. C. Davidson, Ex-Carpenter and Carpenter-Contractor of Columbus, Ohio, Successfully Handling Entire Construction on Extra High-Grade New Factory Building for the Columbus Die & Tool Company. He Has in Use Two "Big-an-Little" Concrete Mixers on This Job, Mixing Both Concrete and Mortar, and Operating Material Hoist. This is a One-Story, Saw-Tooth Roof Shop Building; Has Sub-Floor of 8-inch Concrete and a 2½-inch Thick Concrete Roof.



A "Smith" Hand Mixer Set Up Directly Over Retaining Wall Forms. Three Men Operate It to Full Capacity—One Man to Turn the Mixer and Two Men Wheeling to the Machine. By Proportioning the Mix in the Wheelbarrow and Making One Load a Mix, Three Turns of the Barrel Give a Thorough Mixture.



A Double Trough "Hartwick" Continuous Mixer Laying 150,000 Square Feet of Concrete Floor in the Detroit-Paige Motor Company's New Factory, Detroit, Mich. The Otis Cement Construction Company, Contractors. This Machine has been in Hard, Continuous Service for Seven Years.

worth its weight in gold to me. I am not exaggerating at all. I certainly have had a successful year. Just an insight:

"I was in partnership with a fellow last year and he flunked on me. I had my accounts all paid up when he cleared out, and he left a good share of his accounts behind. Of course I had to straighten these this year. He left over \$700, which I had to settle up. Now, then, my little mixer helped me to do this."

Contractors and carpenters are known as close buyers; when they sit down to figure they want to know all comparative costs. Louis Waltmann, Contractor, of Appleton, Wis., whose specialty is cement sidewalks, curbing, basements, etc., writes:

"My mixer is working every day and is giving first class satisfaction. It is worth to me more than three good men every day. I figure that this mixer has paid for itself long before this time, and have used it a little over four months only."

Again, while considering costs, note three items: (one), first cost of equipment; (two), repairs and renewals; (three), unit costs for mixing and placing concrete for various kinds of work.

The first cost, or investment, varies with the size and style of equipment selected. Right now prices are down, and machines have been improved and perfected until the quality of the machines offered is higher than ever before.

In regard to upkeep and capacity, J. H. & R. Shannon Co., Engineers, Contractors, Architects, of Jersey City, N. J., write:

"Since last April one of our machines has mixed about three thousand yards of concrete to date. It has not cost one cent for repairs and shows no sign of wear. We consider it the best investment that we ever made."

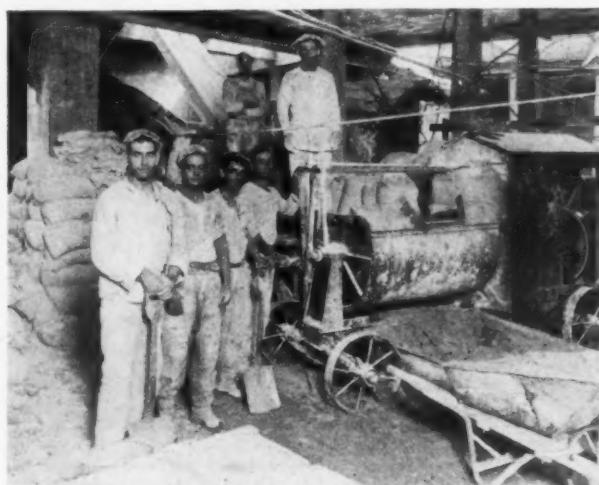
"This machine has paid for itself at least three or four times since we bought it. With seven men we have mixed and placed sixty-seven yards of concrete in foundation walls in ten hours."

An even better record for daily capacity has been made by Contractor Geo. W. Smith, of Belleville, Ohio. Regarding the country road bridge illustrated, he writes:

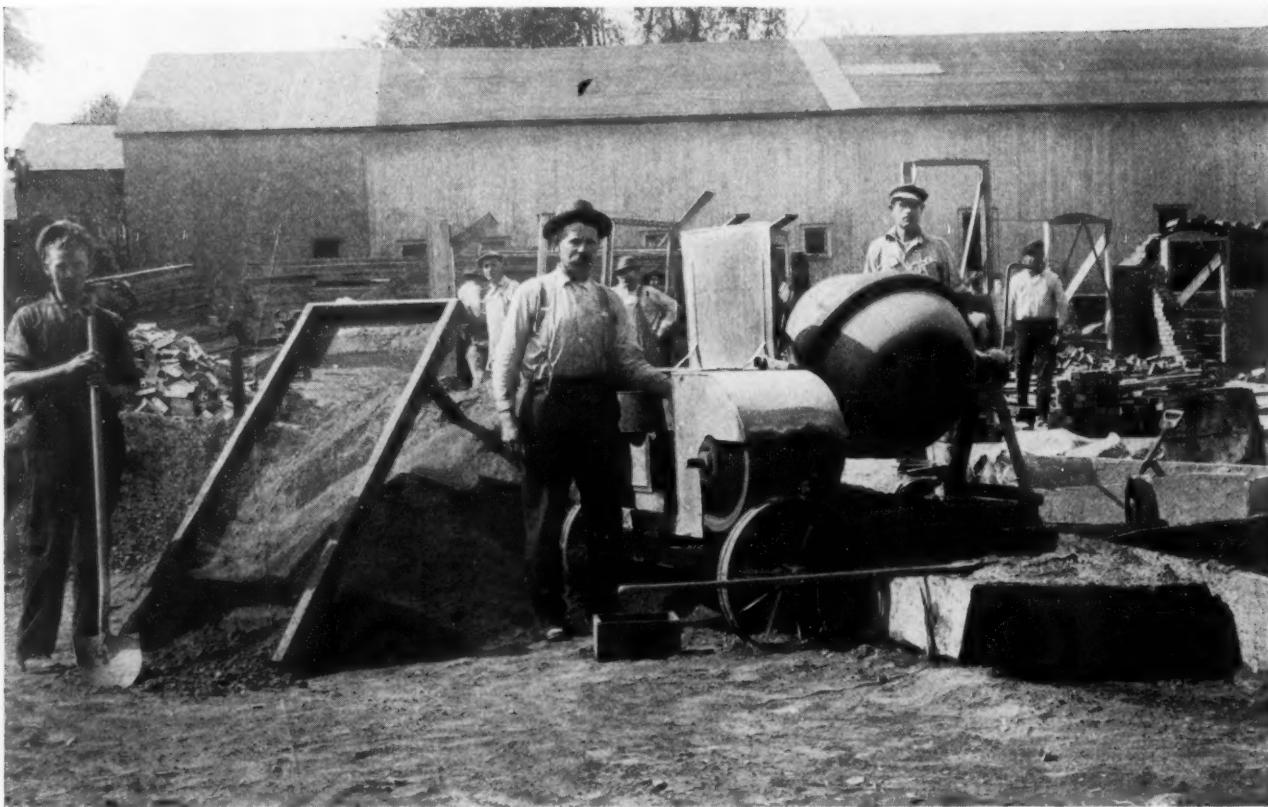
"A great many contractors have been here to see my machine in operation and are surprised at the amount of concrete I can turn out. I feel pretty sure in saying that I can thoroughly mix as much, if not more concrete in ten hours in my little machine than any other contractor in the state of Ohio or elsewhere. I am turning out right along over 100 cubic yards of mixed concrete per day."

Money invested in a concrete mixer quickly comes back, and with interest, too. C. S. Wilcox, Architect and Builder, Lansing, Mich., writes:

"Although I mixed only about 1,500 yards with my new machine last season, I think I am safe in saying that it has already paid for itself. I have not paid out one cent for repairs, and the engine is always ready to 'do business.'



"Blystone" Mixer and Gang that Saved Contractors McNulty Bros., of Chicago, \$2,000 on the Plaster Work on the New 20-Story Whitney Building in Detroit.



Carpenter and Builder F. L. Kays, of Hubbard, Ohio, Mixes Concrete, Lime, Mortar, Hard Wall Plaster, Cement Stucco or Anything Else that Requires Mixing with His "Little Wonder" Mixer. Here, He Is Mixing Mortar for a Large Brick Factory Building.

"In regard to amount of material handled in a given time, on one occasion I had my watch on the boys when we were filling trenches and could run the concrete directly into the forms. With three shovelers and one man feeding in the cement we put through five cubic yards in thirty-one minutes."

Now just stop and figure out how long it would take four men on a shovel board to thoroughly hand mix five cubic yards and get it into the forms!

The farmer trade looks good to a great many of

our readers. We have been interested to learn the large amount of concrete work now going in on the farm. There is unquestionably a rapidly growing sentiment for concrete silos, feeding floors, root cellars, ice houses, stock barns and a long list of farm utilities in which the slogan is "Concrete for permanence." Whether the contractors will go out after this somewhat scattered business is a question, but there is little doubt if they would advertise locally for it, they could get the work. In any case, it is certain that the rural building contractor or carpenter could fulfill his requirements a great deal better if he would purchase a concrete mixer and be a real contractor with equipment ready to do concreting as well as carpenter work.

One of the mixer manufacturers reports that he sold last year 144 concrete mixers to farmers. No doubt these farmers did not want to buy a mixer, but they bought simply because there was no contractor in their community who was the owner of a mixer, and they purchased mixers in order that they could have their concrete work done properly.

If the country contractor will purchase equipment—not only concrete mixers, but saw rigs, etc.,—he will make himself a valuable addition to his locality, and his services will be required by all of the farmers in his vicinity and he will get the best of the business; because it is a well known fact that there is no quicker and better way of working than with machinery.

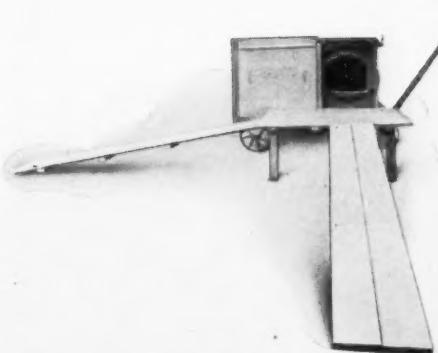
Speaking of saw rigs reminds us of Beach & MacIntyre, Builders, of Providence, R. I. They write:



A Hand Power Machine Shows a Great Advantage Over the Shoveling Board. On this Job, Using a "Northfield" Hand Mixer, Five Men Easily Laid 30 Cubic Yards Per Day of Well Mixed Concrete. Doing Their Best by Hand Mixing, They Could Not Have Averaged Over 10 or 12 Cubic Yards Per Day—an Increase in Efficiency of 300 Per Cent and Much Pleasanter Work, Too.

"Thanks to My Concrete Mixer"

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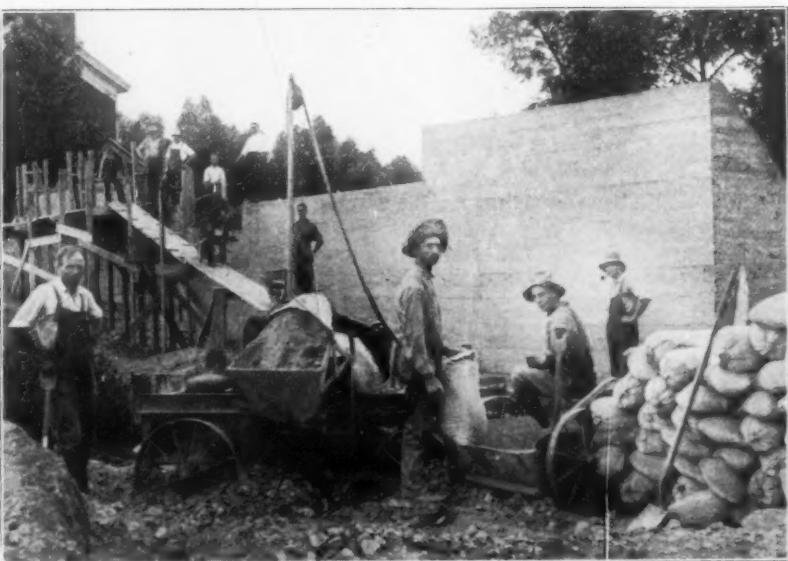


Convenience in Charging is a Big Feature with Concrete Mixers. This Photo Shows the "Ransome Bantam" with Runways and Charging Platform for the Wheelbarrow Gang.

"It would be hard to get along without our mixer. It has given satisfaction in every respect. At present we are using the engine to run a band saw. Can saw stock up to six inches with perfect ease. Would cheerfully recommend it to anyone who is looking for a small mixer that will do a big lot of work."

Another good suggestion comes from Carpenter and Builder O. S. Kelso, of Winnimac, Ind. It will interest those who think they haven't enough work to keep a mixer at work all the time:

"The mixer I am using I bought from Hagenbush & Miller six years ago in March. They told me they had used it two years. They were using hand power. I put a 3-H.P. engine on it and have used it in all my work since, both in my fac-



Interesting Concrete Dam Project at Poynette, Wis. An "Albany" Mixer is Doing the Work.

tory and my foundation work. I have built school houses, churches, dwellings and stores, and in my six years of constant use I have not paid out over \$10.00 for repairs, and have made ten times that much *renting it out* when I was not using it."

For most builders the mixing of hardwall plaster, and lime mortar is just as important as concrete mixing. While there are special mixers for these purposes, some machines will mix anything that's put into them and give a good account of themselves. For mixing plaster and mortar the machine mixing not only saves labor cost but material cost as well.

McNulty Bros., Contractors, of Chicago, have been troit. They write that they put a machine to mixing handling the new 20-story Whitney Building in De- the plaster for this job after the first five stories had



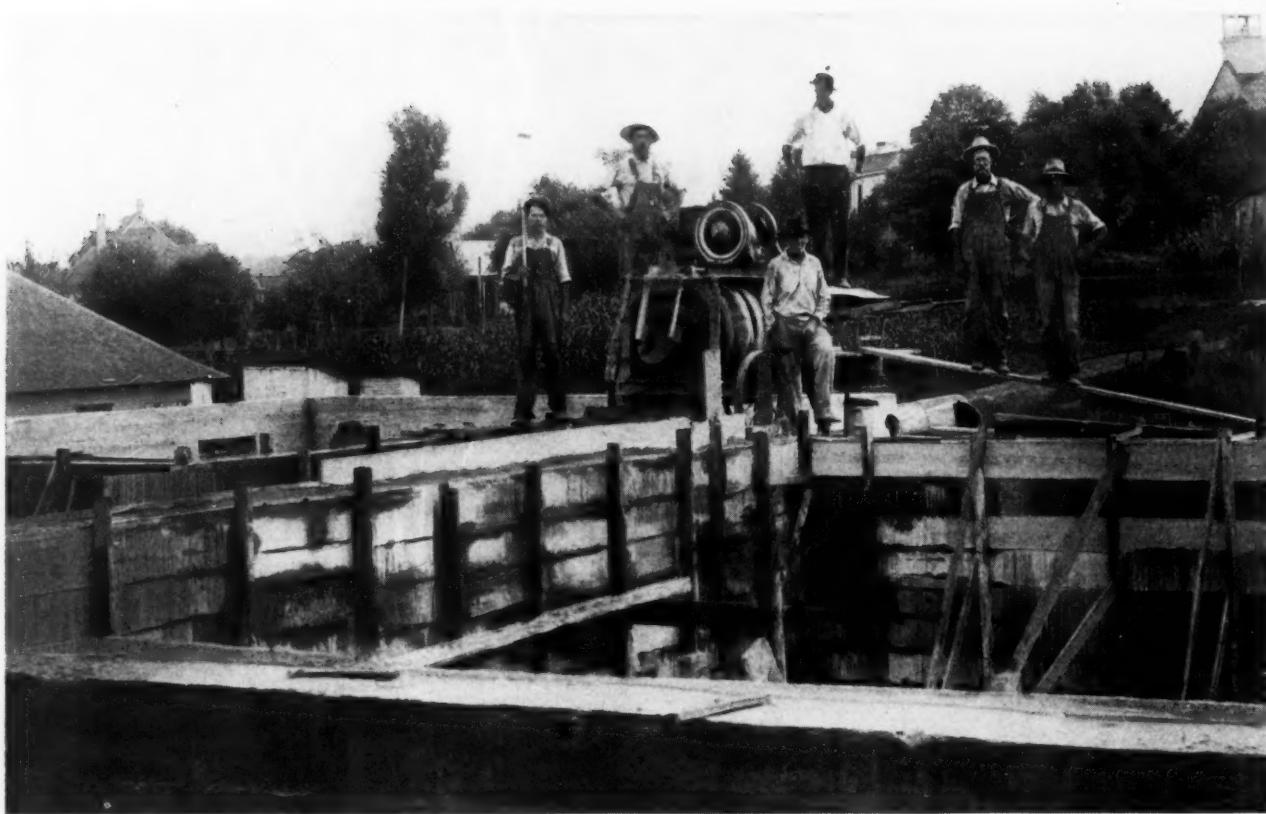
The J. H. & R. Shannon Company, Well Known Engineers and Contractors of Jersey City, N. J., Use a 5-foot "Little Boss" Mixer with Side Loader and Hoisting Rig for Elevating Each Batch to the Roof of this Building.



Carpenter and Builder G. E. Lawson, of Turon, Kans., Beginning to Place Concrete Basement Wall for a \$1,000 Residence. He Finds the "Bolte" Continuous Mixer a Handy Outfit for This Use.

been completed. On the remaining fifteen stories it is figured that the mixer actually saved \$2,000.

When the mixer man started the machine he used the same proportion of sand and plaster as had been



Merryman & Ferguson, Contractors and Builders of Milltown, Ind., Never Sub-let any Foundation Contracts. Their "Archer" Mixer Does the Work for Them in Jig Time.

used by them when mixing by hand. After a few batches had been sent up to the plasterers, they protested that the mixture was entirely too fat. This, of course, was due to the thorough mixing. He then increased the amount of sand to the unit of plaster by 45%, which satisfied the plasterers and gave just that much saving in hard wall plaster.

In addition to this the plasterers were able to spread from 15 to 20% more plaster per hour than was possible with the hand mixed stuff. This was due to the fact that the plaster is so thoroughly mixed that all lumps are eliminated and the plaster makes much

better suction on the wall with fewer drops, as well as being much easier to put on.

As to machine mixing of mortar Wm. J. McClure, a contractor of Washington, D. C., writes:

"I think the mixer is worth its weight in gold. I use it for mixing brick mortar and have kept forty masons going with it."

Geo. W. Young, of Gary, Ind., writes:

"The mixer we bought last September has done more than we expected of it. One man made all the brick mortar for twenty layers with ease. The machine more than paid for itself on one building. We also put three and one-half car-loads of Wood Pulp Plaster through the same machine by only removing the hopper. Our expenses on the machine for seven months was thirty-five cents (35c)."

"I am thinking of buying another machine."

Some of the machines referred to above are quite sizable outfits; others are little fellows. There is a size and a style to suit every need and every purse.

Concerning a small mixer, P. J. Kennedy, of Holyoke, Mass., writes:

"We were amazed at the amount of concrete turned out by a machine of this character. Its adaptability in places where the operation of any of our larger machines is impossible, also its ease of transportation, are features that particularly appealed to us, and on account of these, have kept it quite busy. We consider it a very handy addition to our equipment."

There are small machines with gasoline engine power, and also hand power machines, that are highly serviceable—showing a great saving in convenience and output over the old out-of-date shoveling board. There is nothing that assures the success of any small



No Lost Motion on this Foundation Job. The "Crescent" Continuous Mixer is Placed Right Up to the Trench and Deposits Directly into the Forms. Clean Sandy Gravel was Excavated from the Building Site so that Here No Hauling of Material was Necessary, Either Before or After Mixing.

"Thanks to My Concrete Mixer"

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Bridge Work is Profitable When Done with a Power Mixer.
Contractor Geo. W. Smith, of Belleville, Ohio, and His Crew
Discovered After Just Finishing a County Road Bridge with the
Help of a "Chain Belt" Mixer that Averaged 100 Cubic Yards of
Mixed Concrete Per Day.

contractor like the purchase of a good small sized mixer. For instance, on one job with the help of a hand mixer 30 cubic yards per day were easily laid with five men. These men averaged some days much more than this when the work was at all favorable. To have done their best by hand mixing they could not have averaged over 10 or 12 cubic yards per day, so you can see what a tremendous saving there is to the contractor who purchases one of these handy little light-weight hand mixers.

Wm. Lay, a Contractor and Builder, of Jellico, Tenn., who makes reinforced concrete work a specialty, writes:

"I have been using the hand power mixer now about two years, and it is a dandy. I can take five men and turn out more concrete in one day with this little mixer than I can cut on a board with the same amount of labor in one and



Contractor Theo. Hackbart, of Milwaukee, Putting in Concrete Steps in Quick Time with His No. 5 "Smith-Chicago" Mixer.

a half days. One man will turn out as much as three men will load and dump and it keeps two men busy to keep it away from mixer. I have mixed as high as 50 yards of concrete in five days and the mixer was not going much over one-half time. I wouldn't have a larger mixer for my use as I can run it up on scaffold and dump concrete in forms if I wish. You only have to turn mixer three times and about one-half back and you have a fine mix."

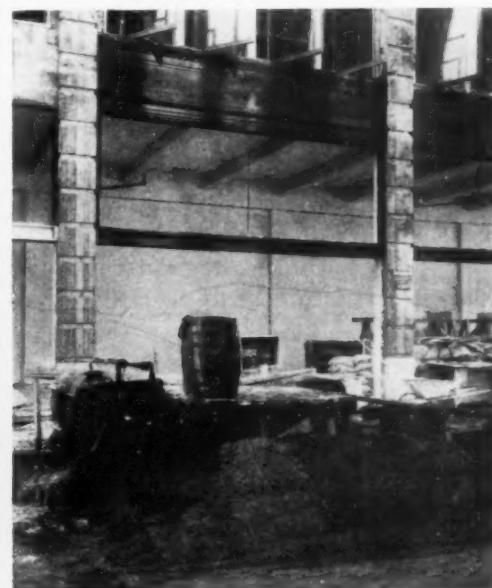
At this time—with a big busy building season ahead—we sincerely urge our carpenter and builder readers to get down to cases on this concrete and mortar mixer proposition.

Get ready to handle the bigger business! Don't let "the other fellow" get your profits! Reach out!

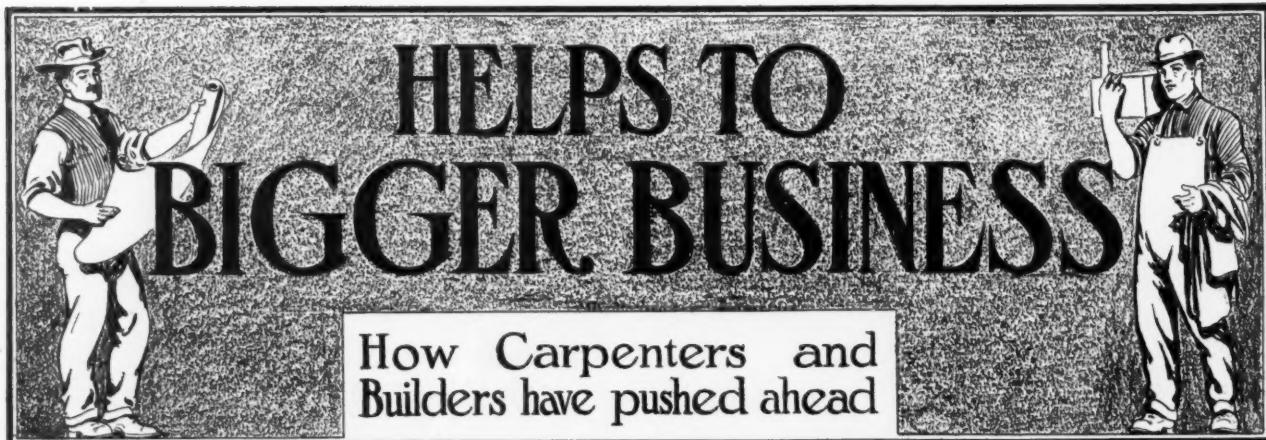
If you will investigate the concreting equipment offered by the manufacturers this year you will find it practical, economical, and efficient. Many models are designed especially to meet the needs of carpenters and builders—small portable machines, strong but light. Prices within the reach of all. Better write today for mixer catalogs.



A. B. Nichols, Builder, of Good Thunder, Minn., Gives His "Eureka" Mixer Credit for Pulling Him Out of a Tight Place Financially. His Gang of Carpenters and Builders are Here Enjoying a Moment's Breathing Spell on a Promising Farm Building Job.



Hard Wall Plaster Mixing and Mortar Mixing are Quite as Important as the Mixing of Concrete for Most Building Contractors. The "Blystone" Mixer is Much Used in this Way. Here is a Photo of One Finishing a San Francisco Business Block.



The Little Things That Count in Home Building

SHOWING WHY SOME HOUSES SELL BEFORE THE PLASTER IS DRY; WHILE OTHERS FOREVER STAND EMPTY

By Kenneth C. Cardwell



HOUSE is made to live in! Which means that it has to meet the innumerable needs of living, night and day, Sundays and holidays; and the average man and his wife, when they go forth to look at a dwelling, look at it, consciously, with eyes in which this consideration is large, as it should be. And, accordingly, unless the house is built with these things in mind, it is pretty likely to be found lacking when subjected to the severest test embodied in this view. It may be an excellent house in many respects, but unless these little things are all well taken care of, it will not meet with the approval of the average person looking for a livable house. To that extent, therefore, it must be considered a failure.

Now, of course, there are a great many things predetermined for the builder, so to speak, unless he has unlimited powers and funds. For instance, if he is limited in ground space, he must economize in the size of his rooms. If the lot on which he builds is narrow, his house must also be narrow. If he is building a house to sell for a moderate price, he cannot have massive fireplaces, tiled roofs and hardwood floors. In a word, as the old phrase goes, he must cut the coat according to the cloth.

Still, there are many details in which the cost cuts no figure, but where horse-sense alone decides whether they shall be handled this way or that. It is in these details which, properly taken care of, go to make the house all that it should be that the whole secret of successful building lies; for these are the little things which make or mar the house, and make or mar the success of the builder. Sometimes high-priced and haughty architects make these mistakes; and frequently the practical, experienced builder, who, from long years of dealing with the wants of those

who build, knows what is wanted in a house, knows how to avoid them. If not, he has not learned from his experience.

Attic Stairs in Front Bedroom Closet

Not long ago a young couple were taken out by a builder with several houses nearing completion, to look at them, with a view to selecting one to buy and live in. They were similar in design, as the builder informed the prospective buyers; and, this being the case, the deal was all off as soon as they reached the second floor.

"Why, are these the attic stairs?" cried the customer's better half, peering doubtfully into one of the bedroom closets.

"Yes, that's where the stairs go up," genially replied the builder.

"Wouldn't have such a house!" promptly and positively answered the young woman, turning to go without further delay. "The idea of having to drag everything and everybody to go up in the attic through the front bedroom! And, besides, it makes that closet



"What! Are Those the Attic Stairs Going up from the Bedroom Closet!"

practically useless. No, I won't look any further—it's no use."

And, despite the good-humored, half-embarrassed protests of her husband, and the expostulations of the amazed builder, she stuck to her position. The case might have been different if it had not been that the attic was a large and roomy one, avowedly intended by the builder for use, possibly with a pair of finished rooms; so that when he cut it off in this manner he spoiled it for many people who want their houses arranged sensibly, and with a view to convenience.

A Bungle-oh of a Bungalow

Then there was another house, of the real bungalow type—as far as the exterior was concerned—but so arranged inside as to justify the rather low opinion which the practical builder frequently expresses for this American contribution to home architecture. That is, it was what a recent contributor to this journal characterized, substantially, as a "bungle-oh," because it was arranged totally without consideration for the ordinary requirements of living.

One of the bedrooms was in the front of the house, but it had no windows looking out on the front, for some reason or other. The bathroom was also in the front, for some equally mysterious reason, and its windows were the only ones which looked upon the street! Leading out of the kitchen was a long, dark passage, with three doors close together, and all alike, extremely confusing in this respect; and one of these opened upon a dark pantry, another to the basement stairs, and the third into the dining room. The house invariably threw those who visited it into a state of either speechless or far from speechless amazement. It was a triumph of bungling architecture and design; and its builder will be a long time in selling it, despite the fact that it is very well located.

A Mourning Finish that Brought Sadness to the Builder

Another builder, seized with the bungalow fever, literally followed the advice of the ironical contributor referred to above, with reference to the decoration of a story-and-a-half house he had just completed, and painted it black inside and out. At least, he stained the woodwork from top to bottom of the house black, in a so-called "Early English" shade, not even letting the drainboard to the kitchen sink escape. Bathroom, bedrooms and all were finished in this funereal hue; and it was only by doing an extensive job of sand-papering up-stairs, and refinishing that part of the house with a couple of coats of flat white, that the builder overcame the objections raised by nearly everybody who saw the place.

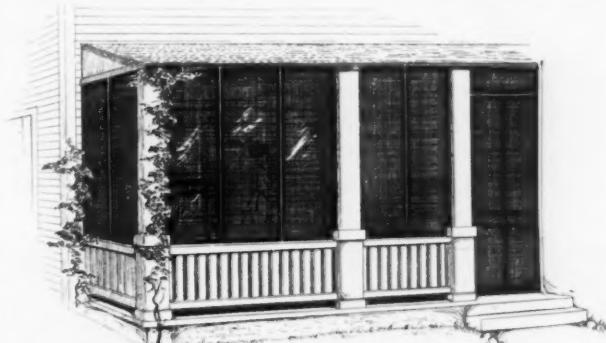
Plan and Build Your Houses to Live in

"Builders live in houses, don't they?" innocently inquired a young woman of the veteran of the trade

who was showing her through the house which his force had just completed.

"Why, yes, usually," he admitted, with a grin. "Why?"

"It just struck me," answered the young woman, still with the utmost innocence, "that it would be a good idea if they would look at their own houses, and then take the advice of their wives, before trying to put up a house for somebody else to live in. They don't seem to consider the requirements of the ordi-



Present Day Housewives Vote for Screened-In Back Porches Every Time.

nary modern family, and it would be such a great help if they only would."

And, at that, there is a good deal in the suggestion that the wife of the average builder has ideas which would be of value to him if he would only take the trouble to find out what they are. As already pointed out, it is the women who live in the houses which are placed on the market; it is they who are with them most of the day, and it is they whose criticisms have to be met. It would be the best of good judgment, therefore, to see to it in advance that some of the practical features which appeal to women are looked after, and some of the things which arouse their antagonism eliminated.

Made a Hit with the Women by Screening Back Porch

For example, an astute builder in a city in the Ohio Valley sold several houses of no great merit last summer, solely because he had picked up from the wife of a friend who had lived in the West an idea which appealed to him as being practical. It was that of screening in a small rear porch, so that it could be used during the summer months as a sort of outdoor annex to the kitchen.

"Nobody would think of building a house out there any other way," declared the lady from the West, positively. "You put your refrigerator out on the screened porch, you see, and vegetables and fruits and things can be left out without being all covered with flies. It's the most useful and sensible thing in the world, and doesn't cost anything, either."

Accordingly, the builder tried out the idea, the more willingly as he knew the summers in his vicinity were always long and hot. As a matter of fact, it was perfectly true that this feature, which, as he at once realized, would make a fine talking point when it came

to selling the houses, cost very little; and he found that the women appreciated the innovation so strongly that he disposed of the houses with very little effort. When he begins operations next spring, he declares, not a single house will be without its screened back porch.

"Uptodateness" Gets the Money

One of the most important things for the carpenter and builder who has anything to do with the designing of houses to remember is that styles in construction change, just as surely as do fashions in garments; and the builder who is out of style is running a serious risk of spoiling perfectly good material by placing it in a house which is hopelessly behind the times. Not to go too much into detail, the coming of the living-room, now a feature universal in modern dwellings,

was coincidental with the passing of the parlor and the reception hall; and yet there are thousands of conscientious builders who have not yet grasped this fact.

Of course, the local demand fixes the fashion in every locality, to a certain extent; but, other things being equal, that builder who consults the best models available in this respect, both as to those things which he should omit and those which he should install, will not go far wrong. At least, he will learn many things worth while, and avoid the greater number of errors which mar the work of the too-conservative element of the trade.



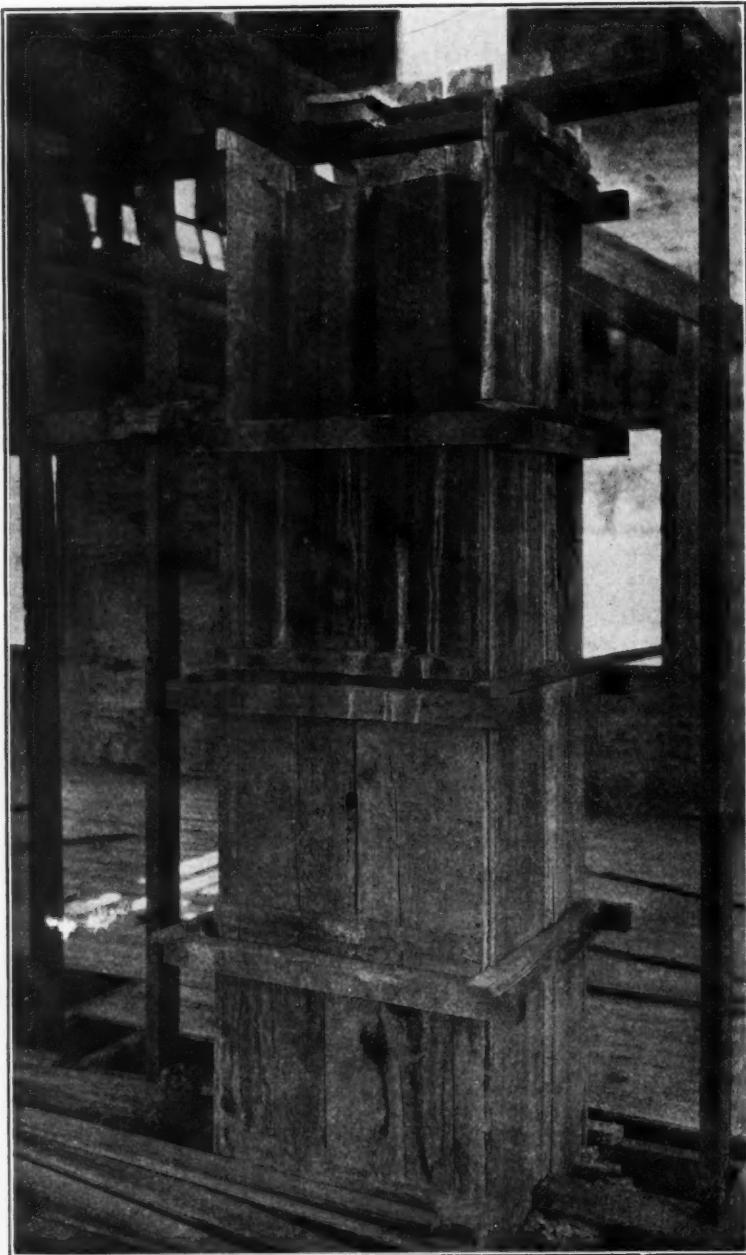
Building a Concrete Chimney

An examination of fire statistics would show that defective flues are the cause of a great majority of the fires that occur in dwellings. It is an old saying among architects that money put into a thoroughly good chimney is never wasted. So far as safety from fire is concerned, the chimney is the most important structural feature of a building. But almost countless fires have shown that careless workmanship, and in some cases bad design, in chimney construction prevail to an alarming extent.

A properly constructed chimney should be a seamless monolith, and in recognition of this fact builders are now using concrete. Concrete chimneys are poured in a plastic state and harden into so much solid stone. They have no joints, and sparks or burning soot cannot come into contact with surrounding woodwork.

Small concrete chimneys can be constructed in two ways. An outer and inner wooden form, between which the concrete is poured, can be used, or the inner form may consist of a clay or concrete tile, either round or square in section. Where the tiles may be procured easily, it is a more simple operation to use them for the inner form.

All chimneys, regardless of size, should have good foundations. If the chimney is not carried down to the depth of the cellar, it should have the foundations at least below frost line. For ordinary conditions a depth of three feet below ground level will suffice. The foundation consists of a concrete slab 12 or 18 inches thick and 9 inches larger on every side than the outside dimensions of the chimney. Where the house is constructed with concrete walls, the chimney is cast as an integral part of the walls, and, consequently, needs no separate foundation.



A Concrete Chimney in Process of Construction. The Flue Lining Inside the Wooden Forms Serves as the Inner Form.

Improvements in "Standard Form of Agreement"

AT the conference between representatives of the American Institute of Architects and a Committee of the National Association held in Philadelphia on September 14, 15 and 16, a preliminary draft of amendments to the Agreement and General Conditions of Contract, promulgated by the American Institute, was prepared.

At the opening of this conference Mr. William B. King, attorney, of Washington, D. C., and a member of the National Association of Builders' Exchanges, made the following address:

Since the promulgation by the American Institute of Architects of the Standard Documents for building contracts many complaints have been made by contractors that these documents do not form a satisfactory basis for building. Some architects have added their criticisms. Editorials in some of the technical papers have repeated them. The general criticisms may be summarized under two heads:

- (1) That the documents lack certainty; and
- (2) That by them the parties to the contract are placed upon an inequality.

Since the very object of a written contract is certainty, it must be conceded that any effort to make these documents more certain will be advantageous in contracting. It is no less easy to secure the concurrence of everyone in the idea that parties to a contract should stand upon an equality, each having defined responsibilities and rights.

The proposition to be submitted by the National Association of Builders' Exchanges are all intended to be corrective of uncertainty and inequality in these documents. They are submitted with a challenge upon these points. Their proponents are willing to submit them to either of these tests and to allow them to stand or fall as it may be shown whether or not they conduce either to certainty or equality in a contract.

The primary principles running through all the proposed changes are these:

(1) That the rights and responsibilities of the contractor and owner must be defined as clearly and definitely as possible upon the signing of the contract;

(2) That the determination of any questions which can not be defined in advance shall ultimately rest with an impartial tribunal of arbitration.

A working principle is added to these that the architect, responsible to the owner for the integrity and dispatch of the work, shall have the right to control the primary decision in matters of question and to require the work to proceed in accordance with his views, subject to the ultimate determination of the rights of the parties under the contract by arbitration. It is upon these three principles that the committee proceeds to submit for consideration the changes proposed by the National Association of Builders' Exchanges.

These changes are based upon the standard documents rather than upon the older general form of contract. It is realized that the object of the standard documents is exact definition; that they contain very many extremely valuable provisions; that building will be greatly assisted if the general conditions of the contract may be settled upon a uniform basis in which all details likely to form the subject of difference are settled after complete consideration by intelligent representatives of the various parties in interest.

The proposed changes in the direction of certainty and equity are just to all parties concerned in building contracts, namely, to the owner, the architect and the contractor.

They are of advantage to the owner in two ways:

(a) By fixing definitely in advance the exact responsibilities of the contractor before he bids, bidding can be reduced to an exact basis. It is impossible to do this where the specifications are uncertain. Each bidder must allow in bidding for the risk which any uncertainty requires. The ultimate result of certainty will therefore inevitably be economy to the owner.

(b) The proposed changes also benefit the owner by removing in advance of the signing of the contract a possibility of interruption of the work in consequence of delays arising during its execution.

The same changes will benefit the architect because they will relieve the architect from discretionary responsibilities wherever that is possible. He will therefore not be obliged to stand between the owner and the contractor in settlement of differences which may arise under uncertain contract terms,

but will be able to point both parties definitely to the contract and specifications as defining their respective rights. He will also be relieved of the final decision of many delicate and difficult questions through the creation of an appellate tribunal. This will remove him from the anomalous position hitherto forced upon him, of being employed and paid by one party to a contract, subject to removal by that party, and yet made a final judge of the conflicting rights of both parties and expected to be impartial in spite of his primary obligations to the owner.

Finally, these changes will benefit the contractor because certainty in contracting will tend to remove the gambling risks from building contracts and put them upon a safer basis. Although this will undoubtedly reduce occasional large profits, it will more than counter-balance this by making losses far less frequent.

As the result of the conference above mentioned, a further meeting was held in Philadelphia on the 19th to 22d of September. At this meeting the Builders' Association was ably represented by Mr. King, who reports the following memoranda of points of special interest regarding the final result of the work of the committees:

The Committee from the American Institute of Architects met the representatives of the National Association in a spirit of utmost fairness and throughout the conference gave the fullest consideration to everything submitted on behalf of the contractors.

(1) "Article 3 provides that detail drawings shall be 'consistent with the Contract Documents,' 'true developments thereof and reasonably inferable therefrom.' This is a substitute for the older phrase 'true developments' and shows that additional safeguards will be required. Contractors have long complained that wholly new work was sometimes forced upon them under the guise of detail drawings. It is believed that the provision above quoted not only gives the architect sufficient scope to develop details inferable from the contract drawings, but also protects the contractor from being obliged to do work which could not be fairly deduced from them.

(2) Provision has been made in Articles 33 and 41 to fix the responsibility of the owner for immediate payment on the architect's certificates. This will prevent the owner from holding up payments after the architect has issued his certificates.

(3) The present standard form provides for arbitration in a limited number of instances. The form prepared by the Boston architects and contractors provides for general arbitration. Article 10 herewith permits special exception to be made in the specifications but, in the absence of such exception, fixes a general rule of arbitration. If this is adopted, it is believed that experience will show the fairness of a general arbitration clause and that few exceptions will be made. The existence of the right to arbitrate will be an effectual guard against extreme positions by either party. It is thought that this Article will make a very great improvement in building conditions, because it places owner and contractor on a perfectly fair and equitable basis.

(4) The important Articles relative to Delays, No. 36, to Damages, No. 38, and to the Contractor's Right to Stop the Work, under certain circumstances, No. 41, safeguards the contractor's rights much more fully than ever before.

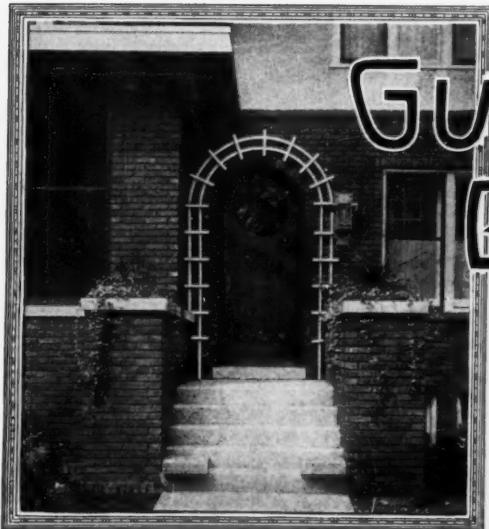
(5) In various other places an effort has been successfully made to define exactly the rights and responsibilities of both parties. Every step toward increased certainty will greatly aid the contracting business and take away the very great risks which have heretofore made it precarious. It will also reduce the cost to the owner.

(6) A special effort has been made to arrive at a just arrangement with sub-contractors. To this end Article 27 contains a short but comprehensive statement of the relations of contractor, sub-contractor and owner. The principal features are the sub-contractor's agreement to be bound by all the conditions of the principal contract and the contractor's agreement for immediate payment of the sub-contractor upon receipt of payments for the sub-contractor's work. It is hoped that a definite statement of their rights and responsibilities will prevent abuses of which sub-contractors have sometimes had cause of complaint. A draft is also submitted to a brief form of sub-contract and acceptance of sub-contractor's bid.

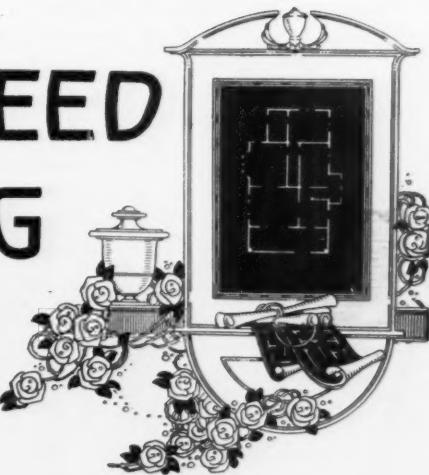
(7) These articles are much clearer, simpler and shorter. The earlier form of conditions contained 63 articles, expressed in 7,500 words, while this draft has but 45 articles and 4,500 words.



Idea for Cozy Living Room, Den or Library. The Spirit of the Most Up-to-Date Home Building is to Embellish All the Principal Rooms and Make Them Interesting by a Generous Use of Built-In Cabinet Work. The Entire End of This Room is Filled With a Unique Combination of Brick Fireplace and Built-In Trophy Cabinets. The Heavy Oak Mantel Shelf is Continuous Clear Across the Three Pieces. Notice Also the Heavy Oak Cornice Mould. This Helps to Make a Very Rich Appearing Apartment.



GUARANTEED BUILDING PLANS



Hip-Roof Bungalow of Five Rooms

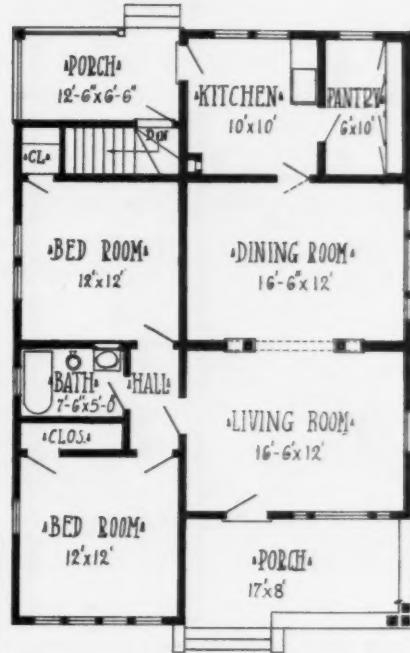
First impressions go a long way towards shaping one's liking for a house. When approaching a bungalow like this, the first impression is that it is about as pretty and inviting as a human habitation could be made.

There is a summer invitation to enjoy the lounging furniture on the front porch that seems to be offered almost as soon as you step from the street onto the private cement walk that leads to the front door. This porch is 17 feet long with the house entrance directly in the front of the steps to the left, which arrangement

leaves the end of the porch free for an outdoor summer parlor.

The floor plan of this little bungalow is almost perfect. On the one side we have three living rooms, splendidly well arranged and connected by doorways and an archway between the living and dining room. On the other side are two bedrooms and a bathroom.

The kitchen, pantry and rear porch all combine to make a domestic workshop that is especially convenient and interesting. Putting the pantry in the corner and providing an outside window and a long cupboard with a work-table top makes the pantry perfect.



A neat five-room bungalow, 30 by 44 feet in size. We can furnish complete blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6648.

An Elegant Suburban Home

An elegant residence of cement stucco construction, 42 feet by 36 feet 6 inches in size, exclusive of the porch and sun parlor, is shown in this design. It is a palatial structure designed for a large family.

There are a number of features of special interest shown in the detail drawings (on the three pages follow-

of long panel design, and the two sun parlors.

One general interior woodwork design is worked through all the rooms in the lower part of the house, including the two sun parlors, which are made almost as light as outdoors by the casement windows at the front and at the ends.

Illustrations of the interior wood-

each other so as to leave a generous opening when so desired.

In the corner of the house, diagonally opposite the breakfast room, is a den that appeals to the men folks. This den may be made into a loggia in the summer time by opening all the casement windows, or it may be closed up tight for warmth in winter and still retain the exclusive comfort



An eleven-room stucco residence of modern design. We can furnish complete blue-printed working plans and type-written specifications for only \$12.00 per set. Blue-prints consist of basement plan; roof plan, first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6646.

ing) which will appeal to those requiring homes of such proportions. The main characteristics are the reception hall, 13 by 10 feet in size, with a broad open stairway finished in plain elegance; the large living room 15 by 25 feet, with its beam ceiling

work are given in the sheet of detail drawings on pages 54 and 55.

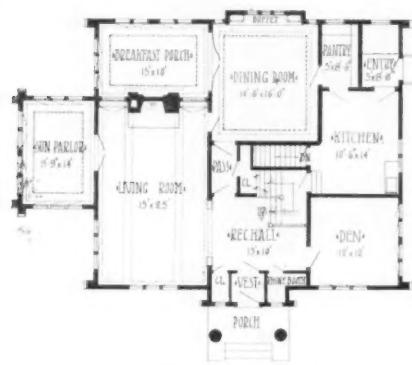
The breakfast porch is really another sun parlor, which opens from the dining room by means of a wide archway. This archway is closed by double doors, which fold back upon

which men imagine they are entitled to.

There is a great advantage in casement windows for a built-in loggia. They close as tight as a door and open freely to expose the whole window outlook when necessary. There is a new way of arranging curtains for these windows which permits them to open sideways. They are hung on horizontal wires and are pulled by draw strings to fold back in narrow plaits.

Upstairs there are five bedrooms and a sewing room and two bathrooms, besides all the closet room that a family could wish for.

A square hall in the center of the house gives a great opportunity to build a modern stairway of a very elaborate design, the construction of which commences with the concrete floor in the basement and reaches clear up to the attic.



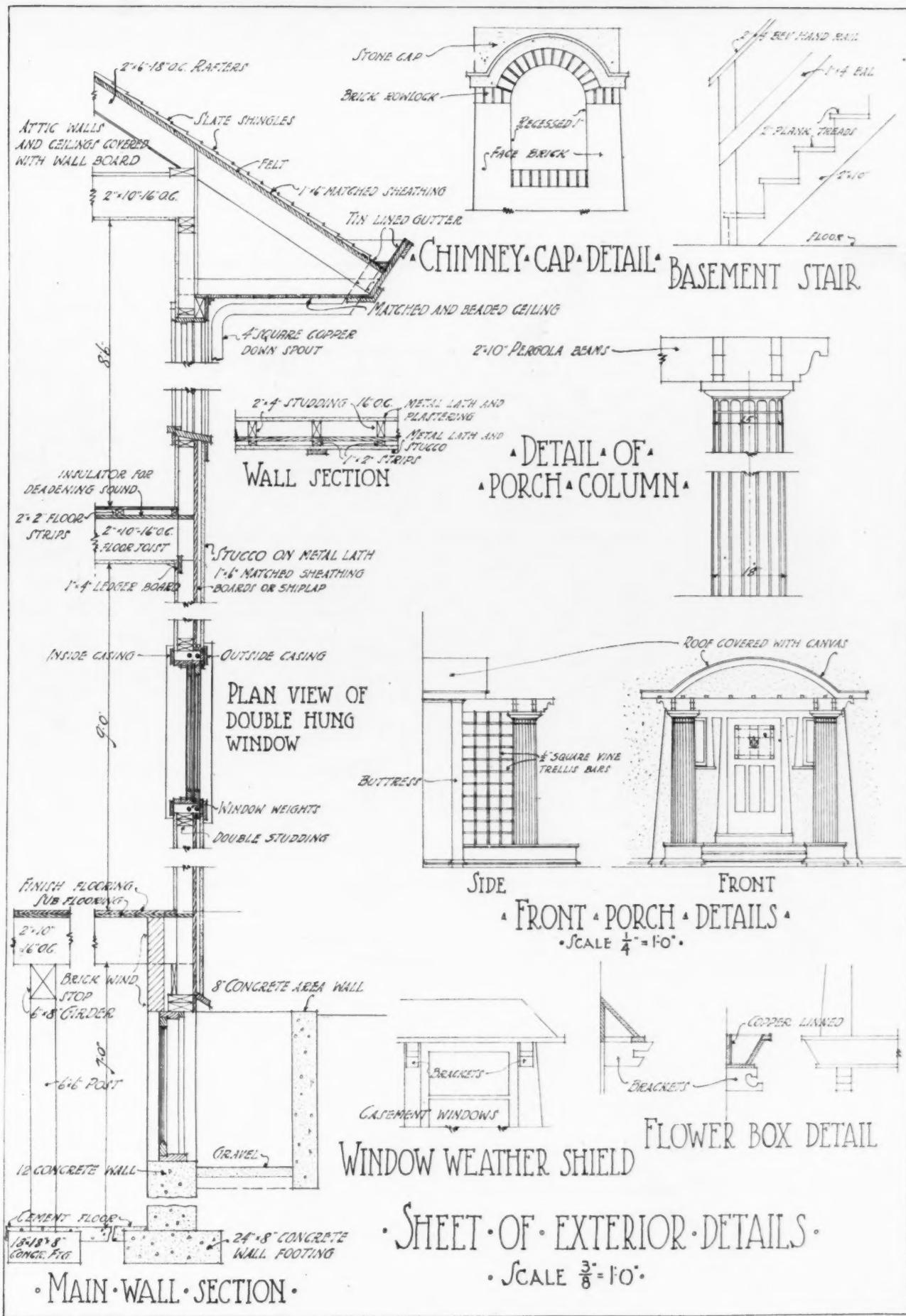
First Floor Plan.



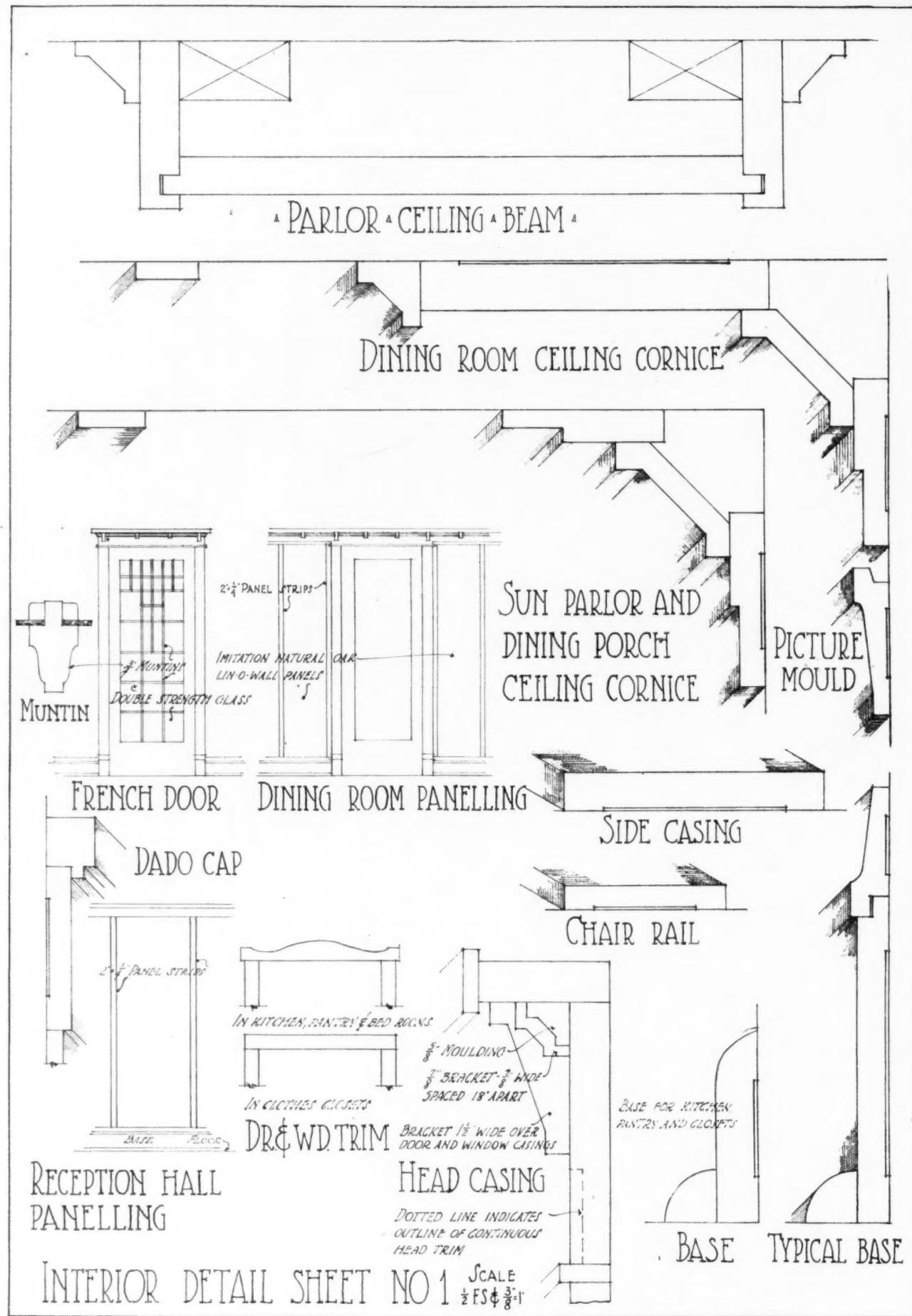
Second Floor Plan.

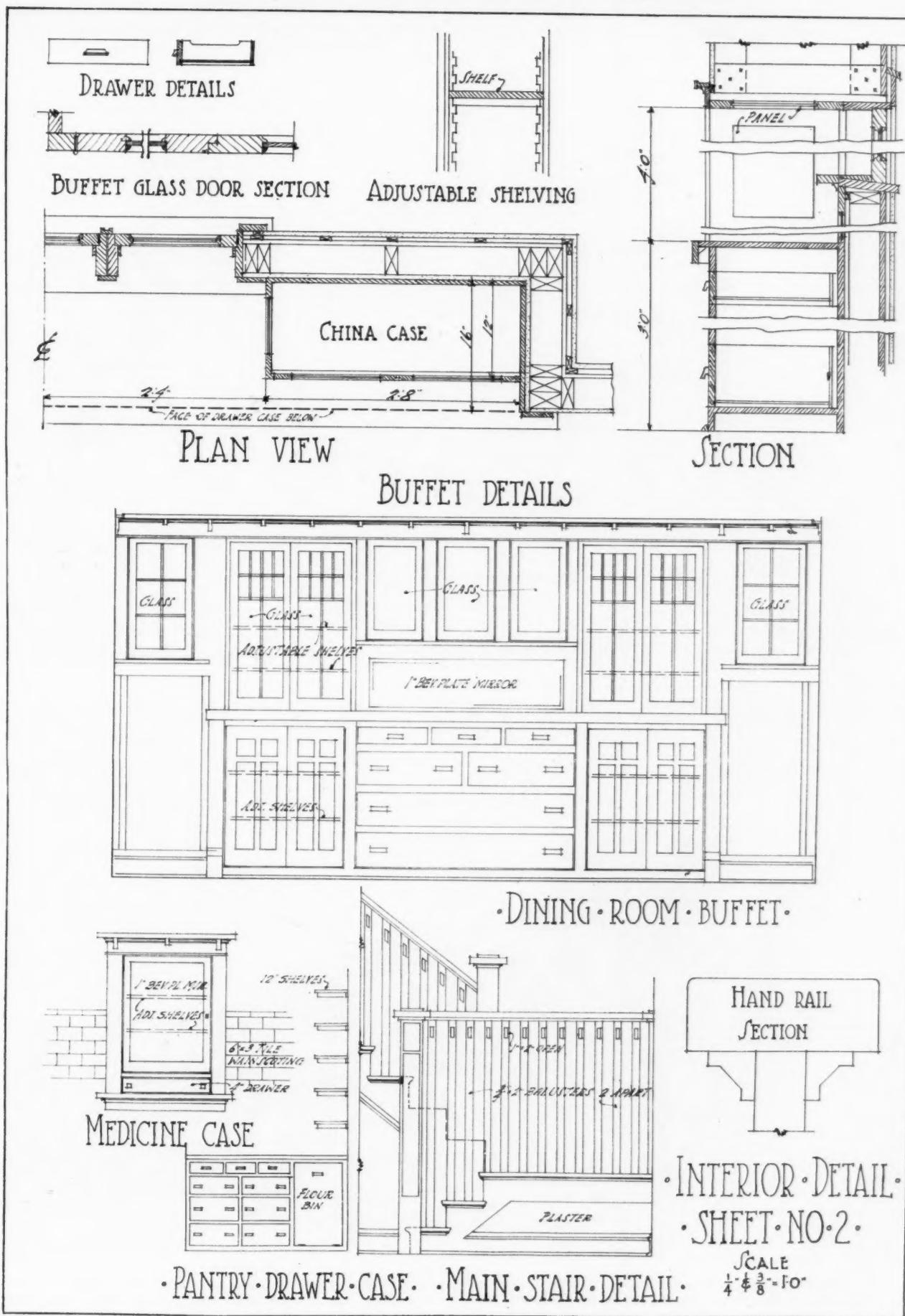
Arrangement of House, Size 42 by 36 ft. 6 in.

For Interior and Construction Details of this House see Next Three Pages.



EXTERIOR DETAILS OF CONSTRUCTION, TO SCALE, OF CEMENT PLASTER RESIDENCE
(DESIGN 6646) SHOWN ON OPPOSITE PAGE.





Cozy Bungalow Home for the Auto Enthusiast

The illustration on this page shows an attractive way to build on a high corner lot. The excavation earth was added to the original bank and worked over with scrapers into a terrace. Flanking the terrace with boulders completes a characteristic setting for the beautiful bungalow that settles down so gracefully on the crest.

Stabling for the automobile was one of the objects in selecting this elevated corner lot, but the view from the living room windows also presented a convincing argument.

Commencing with the garage entrance from the side street, the basement at once becomes one of the most interesting features of the house. The concrete floor of the garage is on a level with the concrete sidewalk on the street, so the entrance is easy and natural. Eight feet between the concrete floor in the garage and the ceiling is provided to give plenty of headroom.

All the cellar walls, including the garage, are made of concrete, and the ceiling over the garage is made of cement plaster on metal lath; this makes the ceiling fireproof. Likewise all the garage doors may be made of metal lath and cement with just enough wood-work to hold the hinges and door fasteners. At the back end of the garage is

a window which opens into the coal bin in the cellar. Coal is put into this large coal bin through the window by a chute from the garage, which settles the coal delivery difficulty for this house.

A work bench with cabinets for tools fits into the corner in front of the garage window which looks out under the far end of the pergola, where a little noise is not likely to penetrate into

the house. There is always some tinkering to be done where an automobile is kept, so that the little shop comes in handy at times.

A door opens from the garage into the house basement opposite the stairway leading up into the back hall, which is a great convenience in stormy weather.

The bungalow itself is thoroughly well built and conveniently arranged.



Plan of Bungalow, Size 35 by 36 ft.



A corner lot bungalow with garage annex. Size 35 by 36 ft. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6651.



Seven-room house with two sleeping porches; size 30 by 37 feet. We can furnish complete blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6650.

A Sleeping-Porch Bungalow

This attractive story and a half house contains five rooms on the first floor, two bedrooms and a bathroom on the second floor, besides two sleeping porches. These are a special feature of this design of great popular value. There also is a generous veranda which reaches clear across the front of the house.

The perspective is interesting and pleasing when viewed from any direction, especially when looking towards either front corner. Considerable outside brick work shows in the large square chimney and the porch pillars and buttresses, which are all designed to match each other.

Entering through the front door there is first the splendid living room, 25 by 13 feet, designed for comfort—bordering on elegance. Individual taste in selecting interior woodwork will decide the style of this room.

Most women prefer rich dark colors with considerable woodwork. Panel designs for both walls and ceiling are popular. Often the panels are pure white to contrast with the dark wood-work. White panels made of wall-board set in frames of dark wood are

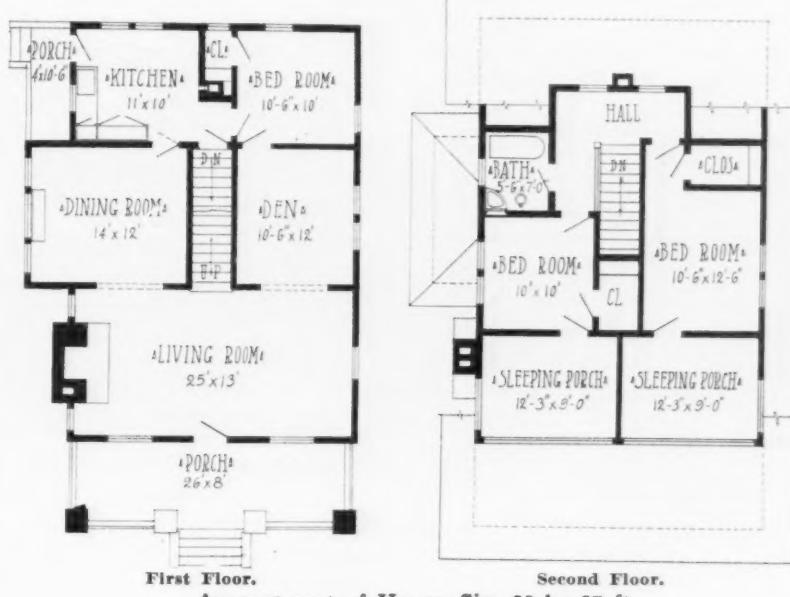
easily made and generally are pleasing.

Wallboard panels are made in sizes to suit large or small rooms. They take paint or tints well and may be decorated in fancy designs of stenciled scroll work, or by actual hand

decorative painting.

This floor plan shows the three rooms on the first floor connected with archways.

There is one bedroom on the first floor—a feature that is liked and demanded by some families.



Five-Room Shingled Bungalow

Here is a stylish little bungalow home, 40 feet 6 inches by 26 feet 6 inches in size, exclusive of the front porch. It contains five large rooms and bath.

A good many persons prefer the broad side of a house to look out towards the street. It gives a wider frontage to get a better view. Also, this arrangement gives an opportunity

porch seat, but only occasionally can they find a proper place to hang it. No article of furniture is more in the way than a swinging porch seat when it is hung in the wrong place.

The downstairs plan of this house offers a good deal of comfort to the square foot. The living room, with the big fireplace and book-shelves, is carefully laid out for the comfortable placing of large pieces of furniture.

tance from the walls of the room. A living room must either be large enough to place furniture out into the room or else have wall space for the accommodation of a davenport and several large upholstered arm chairs.

This plan places the stairway in the rear of the house. It is a combination stair with a grade entrance at the back. This grade door makes a convenient entrance into the cellar, or up



Artistic five-room shingled bungalow. Size, 40 feet 6 inches by 26 feet 6 inches. We can furnish complete blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6647.

ity to build a long roof with gable ends.

There is an advantage in gable ends when the space under the roof is required for bedrooms. A rather massive gable roof extension in front, supported by heavy brick buttresses,

Rooms differ greatly in regard to the accommodations of modern furniture. Our ideas of comfort have been considerably elaborated to meet the idea of modern designers of modern living room furniture.

A living room must be light, at the

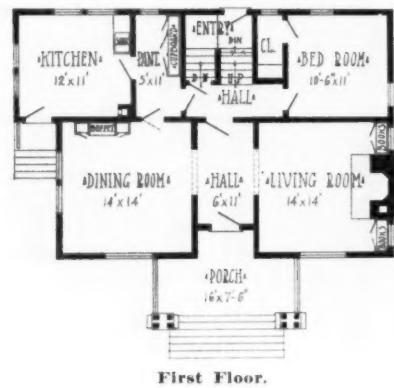
into the back hall. From the back hall the stair goes up to the floor above in the same way by a platform turn about half way up. This platform is of sufficient height to give headroom above the grade entrance.

Upstairs, under the center of the roof, is a bedroom in one gable and a bathroom in the other gable. This arrangement utilizes the space under the roof to good advantage. The other bedroom is on the first floor at the end of the hall.

The side entrance to the kitchen with the walk at the side of the house leading out to the street is made necessary at times, because of the narrow city lots, but it is convenient whether there is lack of room or not.

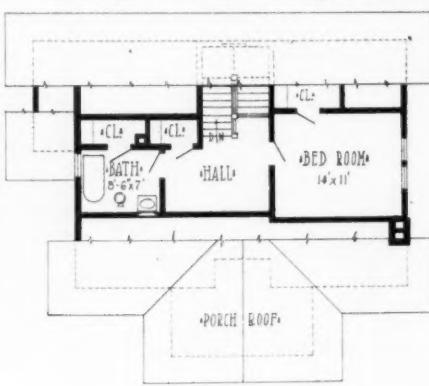
The arrangement of kitchen and pantry is designed to place the kitchen entirely away from the front part of the house.

There is a great deal of built-in woodwork in the pantry. The cupboard is larger than ordinary pantry cupboards as it is intended to reach up to the ceiling.



Arrangement of House, Size 40' 6" by 26' 6".

covers a porch 16 feet by 7 feet 6 inches. At the sides of the porch are places for swinging seats. Everyone likes a large, comfortable swinging



same time considerable wall space is required, otherwise large pieces of furniture must be so constructed as to look well when placed some distance from the walls of the room. A living room must either be large enough to place furniture out into the room or else have wall space for the accommodation of a davenport and several large upholstered arm chairs.

A Neat Five-Room Cottage

An English style cottage with a hip roof and a basement makes a very satisfactory small house for certain level locations where it is impractical to excavate very deep. There are many towns in prairie sections where the fall is not sufficient to put in deep sewers; and in many towns in the southern districts it is not necessary to dig sewers deep down into the ground to avoid frost. On such building sites basement houses are quite common and this general design is well liked.

The basement being principally above ground has windows almost as large as ordinary house windows. The basement makes a splendid workroom, being naturally cool in summer and warm in winter. It is the proper place for the laundry and store room, besides providing conveniences for doing a great many household chores.

The hip roof idea prevails in some communities, because it is neat and attractive in appearance, and because the inhabitants are accustomed to seeing a hip roof or "cottage roof," as it is often called, so that it has got to be a local favorite fixed in the minds of the people.

All the living rooms and bedrooms are on the first floor, which is high enough up to be secure from moisture; also a great many people feel more comfortable

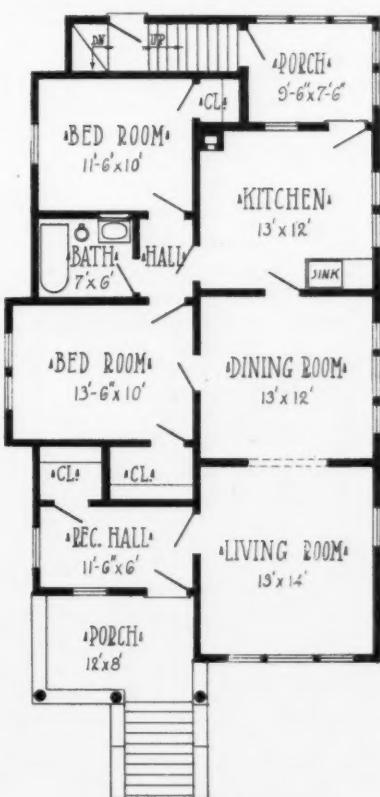
in living rooms that are placed well up from the ground. They feel that an ele-

vation of this kind is a sort of protection against night prowlers.

The woodwork all through this little house is plain and neat. The woodwork is plain and smooth with square corners, but usually the mouldings are of considerable size. People building these cottage houses like to see considerable interior woodwork, so that millwork factories are turning out patterns especially suitable for such cottage houses. The one particular pattern, that is selected, is carried into all the rooms on the main floor.

There may be very little woodwork in the basement, but from the front vestibule through to the rear porch considerable taste is displayed in designing and proportioning the interior finish of the living rooms. A key to such finish usually is given at the front entrance. The design selected for the front door posts and the lintel and the style and workmanship of the front door generally set the fashion for the principal living rooms.

The bedrooms, bathroom and kitchen may vary from this rule, but generally the vestibule, living and dining rooms are all finished in the same general design. The dining room may be made a little more elaborate with built-in cabinets, plate rail and panels, but it is still held down to the original ideas.



Floor Plan of Cottage.
Size 28 by 48 ft.

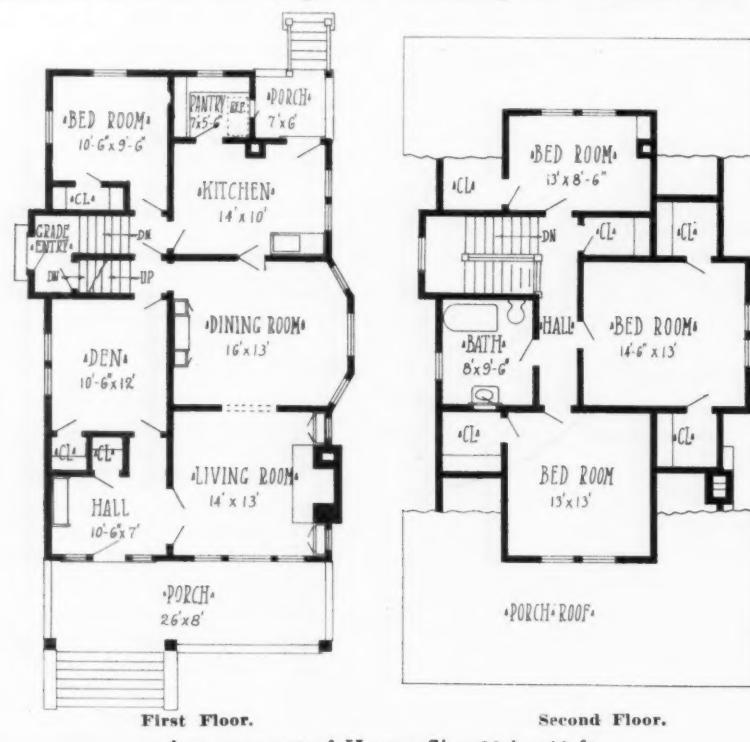


A neat design for a five-room cottage, 28 by 48 feet in size. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6649.

Story-and-a-Half House with Bungalow Roof

A development in American house building that is very popular in some localities is shown in this design. It

is a good looker, principally because it is symmetrical and comfortable. A house owner feels a pardonable pride in his achievement after selecting plans and furnishing the means to build such.



Arrangement of House, Size 26 by 44 ft.

The construction is not necessarily expensive, but the general character of the house calls for good building materials and good workmanship. When finished both contractor and owner are satisfied and are proud of the result.

There are many interesting features. The cellar wall reaches just above the ground line. Commencing at the top of the wall a frame work of 2 by 6 supports the sill at a height sufficient to raise the floor joists 7 feet 6 inches in the clear above the concrete cellar floor. The cellar windows are set in this framework, which permits the building of a solid wall reaching clear around the excavation without a break.

The grade entrance at the side is started even with the top of this low wall so that the steps down give easy access to the cellar and the steps up give easy access to the kitchen through the back hall.

The plan shows four living rooms and a bedroom downstairs besides front and side hall and a built-in rear porch.

Upstairs there are three splendid bedrooms and a fine large bathroom. The front and rear bedrooms are made possible by dormer windows, one on the front, the other on the rear slope of the roof. These dormers are made wide enough to hold double mullion windows.



A beautiful eight-room residence of story-and-a-half design. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6652.



An Attic Room Finished Off in a Most Interesting Way to Serve as a Private School Room. This Remodeling Was Easily Done With Wall Board. Woodwork Painted White and Walls Tinted in Sunshine Yellow. No School Room Could be More Cheerful. Notice the Open Book Shelves and Case of Drawers Built In Under the Low Part of the Roof. This Photograph Shows the Value of Attic Space as a Billiard Room, Children's Playroom or School Room. Attic Space Should be Used.

Many Contractors Wear Fringes on their Pants, a Worried Look on their Faces, and Have a "Poor Pay" Reputation because their Capital is in the Hands of Other People

—THE MAN FROM THE LUMBER YARD

We feel that the making of proper and prompt collections is of such vital importance to those of our readers who may not have an efficient system of follow-up letters, that we will be pleased to supply such with Special Forms. We desire to serve you in this matter.

—EDITOR.

MANY men who read this would be able to buy a "Ford," or a piano, for the home, if able to collect their "past-due" accounts. An over-due account is like a clock. It will go dead, if it doesn't have attention. A dead account is like any cadaver, the longer it is open the worse it smells.

When I was a youngster, "figuring jobs" was not so close, and many contractors made money in spite of their methods, and not because of their ability. The big mail-order houses have set the pace which makes cash count. Other things being equal, the man who can bring his business nearest a cash basis makes the most money.

No Crime to Ask For Money Due You

Everybody wants to sell the man who has good credit. Being a good collector provides the basis for good credit. Many contractors wear fringes on their pants, a worried look on their faces, and have a "poor pay" reputation because their capital is in the hands of other people. Nor do they have any security or interest on their money. They are less able to run chances than the banker; and yet take more of them. Many contractors are not afraid to tackle big jobs, nor afraid to put their "dukes" up with any man; yet are afraid to ask people for money due them. Never apologize for asking a man for what is justly due you.

A good time to begin on your collections is to have a clear understanding before the work is begun. It is well to have your terms printed on your contract blanks. Then when you submit a bid, your terms are readily seen. When payment is due, the debtor has no more right to hold the money back than if he picked a ten spot off your desk.

Collections are simply business details. You lay a nickle on the counter and pick up a cigar. If you lay down work and material worth \$5,000.00 it is well that you should pick up the money. It is yours. You do not lose on the large accounts, as they are worthy of note and you can easily protect yourself. The leaks come in the small accounts.

A Simple Business System that Collects

To such of my readers as do not have a system which does not slip a cog, I would recommend a plan carried out by a Wisconsin friend. He is yet in the "pewee" class, but is a "comer." He makes a specialty of little

jobs, and attributes a good deal of his success to pointers given in our "Extra Profits" department. He finds a disposition on the part of his customers to let him wait for his money until it is real convenient for them to pay. That convenient day is very indefinite. His statement blank has across the bottom in bold face type,

"Payment on all Work is Net Cash on Completion"

When making out a statement he uses one of several rubber stamps, depending on the disposition of his customer. They read:

"Please note that this amount is now due. Kindly sending check at once for favor me with your check." "I will appreciate your this amount which is due."

Statements are made in *duplicate*. One is sent to customer and the other is placed in his "TICKLER" file. This is an ordinary Letter File that can be pur-



It is Difficult for the Poor Pay Man to Buy Right.

chased at any stationer's store for 25 cents. In place of having compartments lettered, they are numbered from 1 to 31, inclusive. If a statement is sent out on the 12th and he thinks that he should have check by the 17th, he places the carbon of statement under the date of the 17th. Some time on the 17th all the papers are taken out and acted on. The debtor is: (1) seen or (2) 'phoned, or (3) written "Form Letter No. 1." If payment is promised for the 21st, the statement is set forward for the 21st, etc., etc. He has three "Follow Up" letters which are not very strong.

Maybe We Can Assist You—We're Glad to Do it

I have requested our Editor to get up several "Collection Forms" that will be right. These may be had for the asking. Incidentally it is not always a kindness to a debtor to permit him to procrastinate. It develops slackness and extravagance. When collecting by personal call or on the telephone it is very important that you know in your own mind that you are going to get the money before you approach the debtor. I have seen a payment refused one collector and made to another, simply because of the assurance of the latter and the diffidence of the former. *He expected nothing and got it.* Simply because a man is good, is no reason he should not pay you. What good does his goodness do if he don't do good. Nor should you be alarmed at a threat of transferring his patronage elsewhere. It will be money in your pocket for him

to do it if he does not pay you for your outlay of material and labor.

More tomb stones are placed in the financial graveyard because of "poor collections" than for any other reason.

Don't Overload Your Mind With Petty Details

You will find that this same "tickler" file is a great aid in taking care of future appointments. If a man says, "I wish you would call the latter part of the month and give me a price on putting up a garage," you would place your memorandum under date of the 28th. You need not carry the detail in mind. There is no need of filling your head with such things as can be cared for mechanically. You can get a file which is marked for each month. If you know that Mr. Smith is going to build in the Fall you would place your memorandum under June, so as to be reminded that this is to be taken up in June.

Working "without a profit" is a close second cause of poor results, but the bell has rung, and I will have to wait until February to talk on that.

There is nothing funny about these subjects. I believe that one reason there is a constant increase in the number of our readers is because the A. C. & B. gives something "worth while" for MEN to read.

Yours for better results,

THE MAN FROM THE LUMBER YARD.

THE YARD QUESTION BOX

We are glad to answer questions advising our Readers direct by mail. Matters of general interest may also be published here.

Scaffold Injury in Illinois

To the Editor:

Thawville, Ill.

I am a carpenter by trade and was working for a contractor last week. The scaffold went down and I went with it. It was not braced enough. The contractor himself had put up the part that went down. Is he responsible for this accident, or could he be made to pay me for the time I am not able to work? Is there any law to that effect in the State of Illinois? I am now laid up, I do not know for how long. My leg is fractured, muscles torn, and I am not able to step on my foot.

I do not say that I intend to demand any payment, but I would like to know the law concerning this.

I am a Charter Member subscriber to the AMERICAN CARPENTER AND BUILDER and like it very much.

CARL JOHNSON.

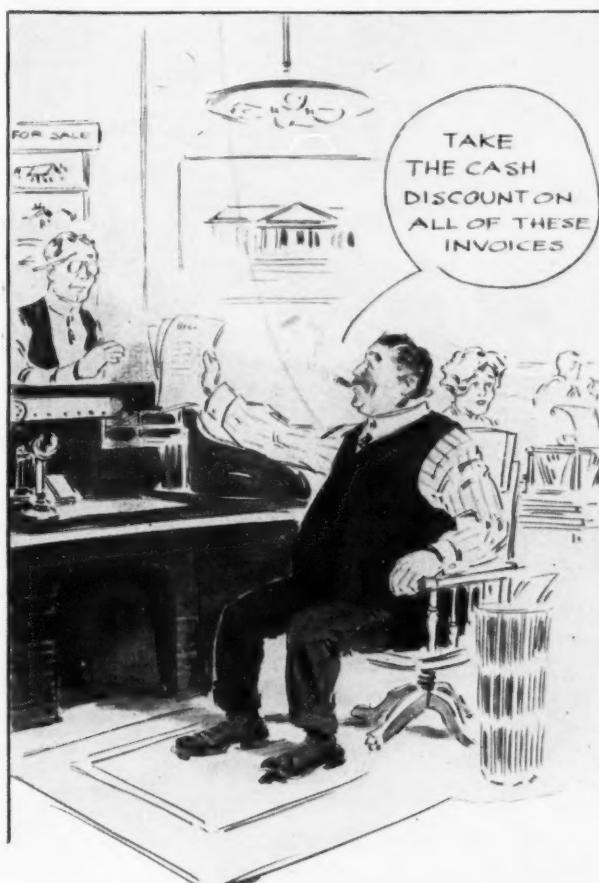
Answer—The law of the State of Illinois specifically states that any employer is fully liable to the employe for an accident occurring as you specify.

If the employer is not financially responsible, the owner of the building on which you were working can be held for whatever damages there may be.

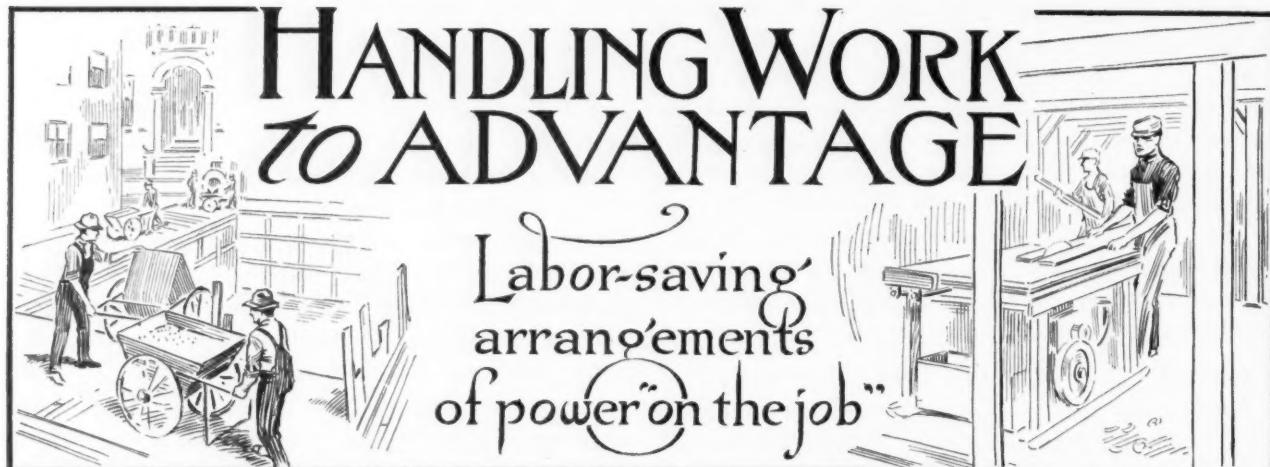
We are very much pleased to note your considerate feeling on behalf of your employer and feel very confident if he is the right kind of man, will meet you half way on this proposition.

Incidentally, your employer should have reported this accident at once to the state authorities in the Transportation Building in Chicago. If he failed to do this, he is not complying with the law.

THE MAN FROM THE LUMBER YARD.



Good Pay Men Buy at Their Own Figures.



Model Carpenter Shop for Building Concrete Form

STANDARDIZED CONVENIENT METHOD OF HANDLING THIS IMPORTANT PART OF REINFORCED CONCRETE CONSTRUCTION

By S. G. Koon

ONE of the developments of the past few years for saving labor in connection with the building of concrete structures has been improved arrangements for preparing the forms and other timber. This includes all the lumber used in the construction itself, as well as that required for scaffolding, bracing and other auxiliary purposes during construction.

One of the leading eastern concrete contracting concerns, the Aberthaw Construction Co., has made a careful study of the whole question of reinforced concrete building and dam construction. They, of course, handle all form making by power machinery right on the job, employing for this purpose several power

saw rigs and portable woodworkers. The carpentry work of form building is a very large part of reinforced concrete construction. Handling this work to the best advantage means working up all the timbers on power saws and then assembling it to make the various forms—doing this on special benches or horses made for the purpose and arranged conveniently to the saw mill.

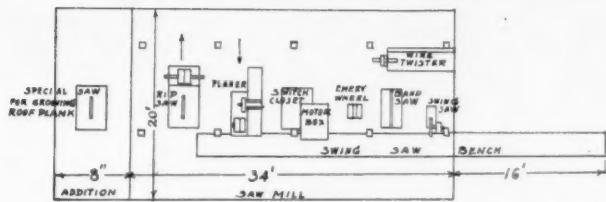
All this makes a carpenter shop with power equipment—a shop that varies according to the size and kind of contract being handled. Now, the Aberthaw people have so standardized their carpenter shop arrangements that a single set of plans, expanded as necessary, is used for one job after another.



Photograph of Carpenter Shop With Power Equipment as Used by the Aberthaw Construction Co. of Boston, for Making Wood Forms for Large Reinforced Concrete Jobs. This is the Arrangement of Saw Mill, Lumber Piles, and Erecting Horses They Have Found Most Economical and Have Made Standard on Their Work.

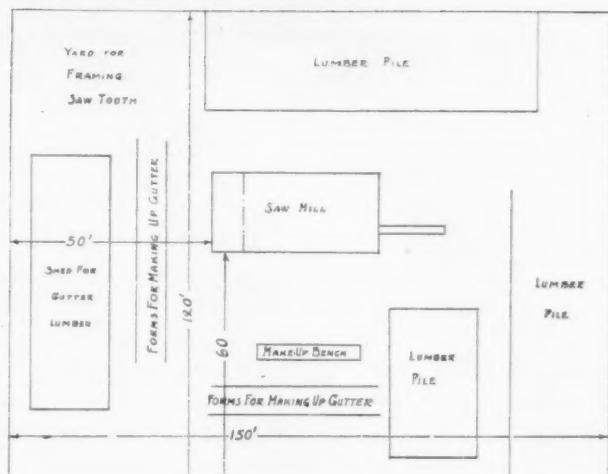
Power Shop for Concrete Form Making

65

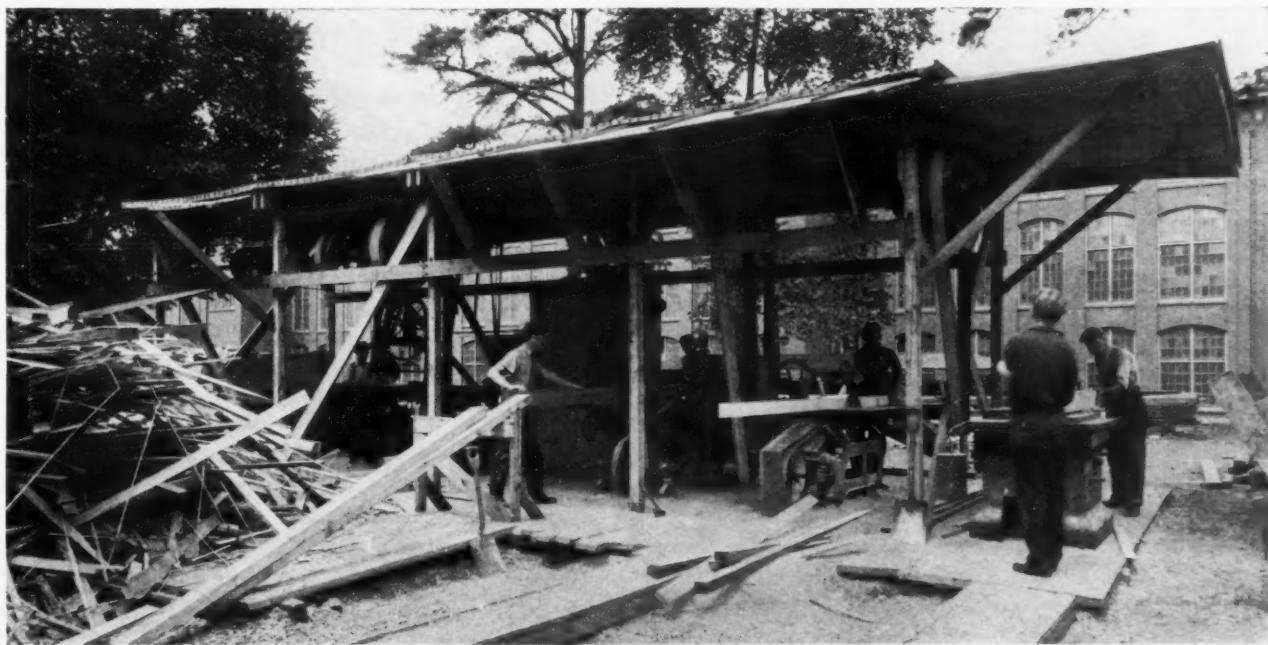


Detail Plan View of Saw Mill Shed.

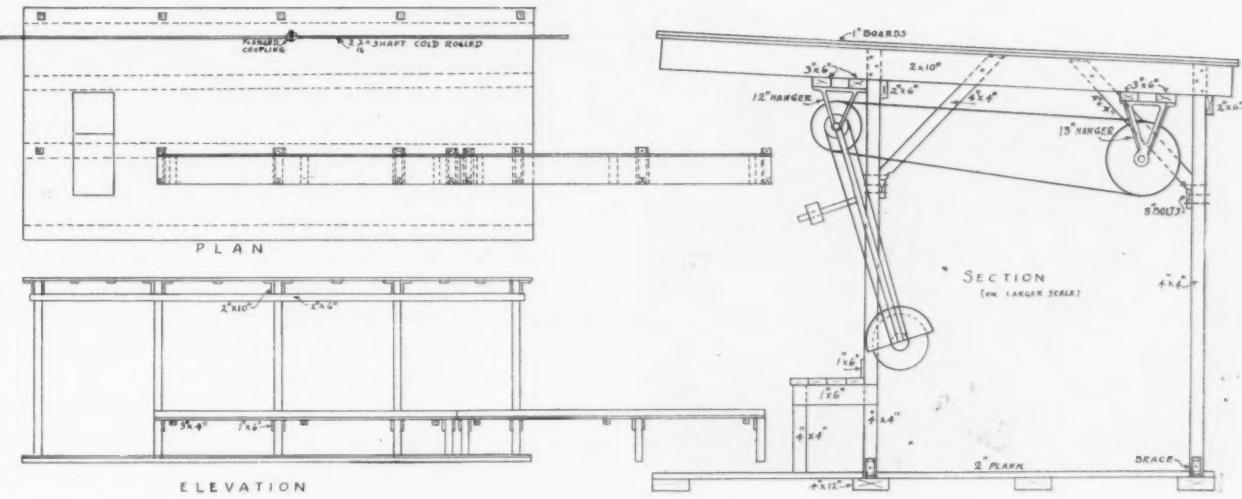
Such a shop is shown in the photographs and on the sketches accompanying. This one was erected at South Manchester, Conn., in connection with the building of a new weave shed and a new dyehouse for the Cheney Brothers silk mill. The locations of lumber with relation to the shop are indicated on one sketch, which shows also the position of all power tools used. The other sketch details the construction of the open-air shop.



General Layout of Saw Mill and Surrounding Yard.



Close View of Carpenter Shop Equipped with Four Power Saws, Planer, Emery Wheel, and Wire Twister as Used for Making Concrete Forms for Cheney Bros. New Silk Mill, South Manchester, Conn.



Plan, Elevation, and Enlarged Cross Section of Saw Mill Shed.

As this company, being very large and with several gangs out, has new contracts beginning every little while, it should be explained that a blue-print is sent out to each job, showing the exact arrangement and construction of the carpenter shop and yard. This gives a full schedule of material, including the number of screws and bolts, as well as all the planks, studs, and boards used for this purpose.

Power Equipment Used

The principal tools are shown to be a swing saw, a band saw, emery wheel, planer, and rip saw. There is also a wire twister in the back of this shop. In addition to these, the shop at Cheney Brothers was given an extra saw for grooving the plank to be fitted into the roof, this being practically a cabinet-making job of building a wooden sawtooth roof with special gutters. All of the plank used for this part of the structure were grooved, and a spline driven in after being served with white lead. The photograph shows the grooving saw in the immediate foreground, with the rip saw next.

The shed itself measures 34 feet in length by 15 feet 6 inches wide. An extension of the saw bench carries the length 16 ft. farther to the right, as shown in the plan, while an overhanging section of the roof, 7 feet wide, extends the length at the other end to cover the

grooving saw. The total length of building is therefore 41 feet and the length to the end of the bench, 57 feet.

All the machines are run by belting from a jack shaft operated by a motor near the center of the building. When electricity cannot be cheaply obtained, a large gasoline engine turns the shaft.

No Rush Time—Form Work is Steady Right Through Job

The extent of study which the Aberthaw Company has put on forms and other timber work, has made it possible to make all these forms well in advance of a demand for them. This work, with other necessary operations throughout the entire job, keep the carpenter shop busy all the while. The system of routing of form material and other materials has shown such good results that the usual slack times and rush times have been almost entirely abolished, the work being now a steady operation from the start of the job until it is finished. By carefully planning out in advance the location of the shop with regard to the job, and with regard also to the location of the lumber piles, much unnecessary handling of materials is avoided, and the cost of working thereby made the lowest which experience shows can be attained in regular practice.

My Woodworking Shop on Wheels

HOW I RIGGED UP AND EQUIPPED MY RUNABOUT POWER SHOP AND HOW I USE IT IN MY BUSINESS

By Elmore Van Winkle

Contractor and Builder, La Porte, Ind.

I WILL venture to state that my power house on wheels has made my work better known to the people around La Porte than any amount of newspaper advertising I could have done. When I am on a job with my power rig there is never any scarcity of interested bystanders. I see them chuckle to themselves and remark to one another, "That builder is all right. He is a hustler."

This advertising feature of the enterprise was something I had not figured on at all when I planned my portable power woodworking shop, so I count it as an "Extra Profit," and it does profit me a good deal by

making my work well-known and bringing me new customers. I had figured that a power woodworker would quickly pay for itself in my business and that was what got me started.

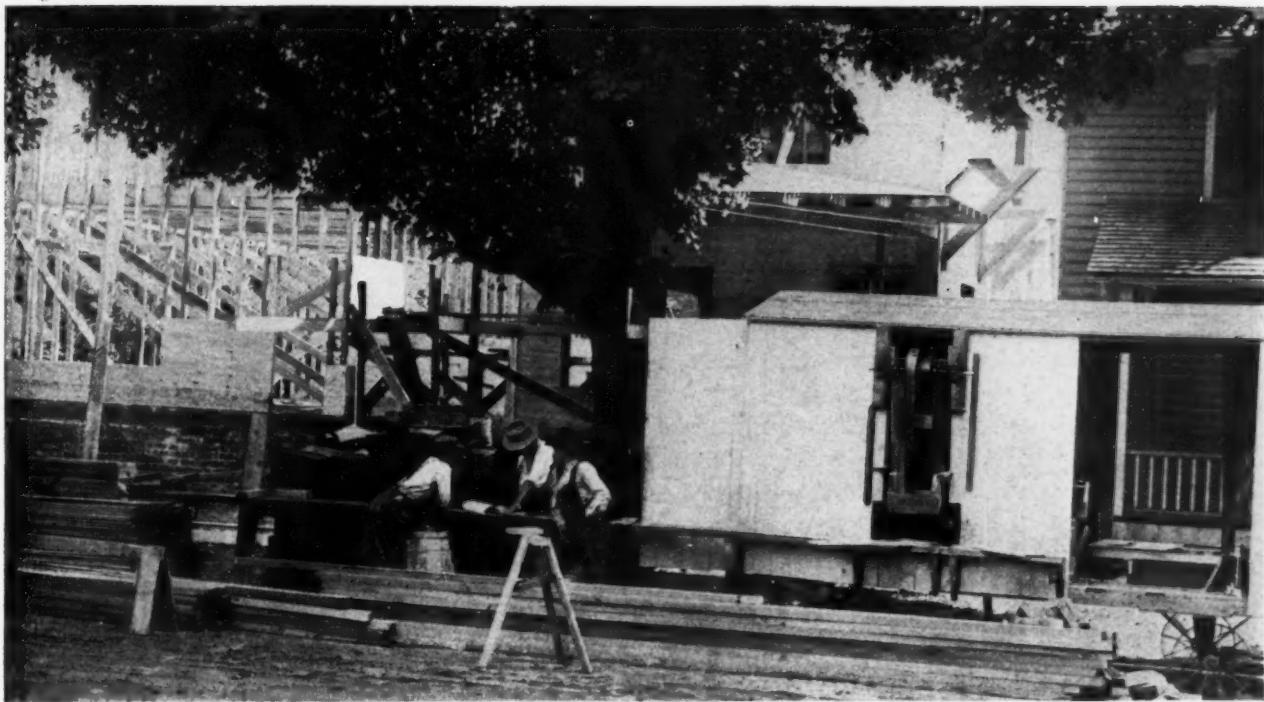
In the first place, I had a simple saw table rigged up in my shop. I drove it with a 1½-H.P. engine. After I had used it for some time and found it was so handy—doing my shop work so well—I decided to take the outfit out onto the job. I managed to do this although it was not really a portable machine. After I had used it about four weeks I saw I was not going to be able to get along any more without power for my work. With that in mind I decided to build me a really portable power woodworking shop.

I built a car 6 ft. wide by 12 ft. long, mounted on stout iron wheels and bolster. Around the platform I built a 6 foot wall and roofed it over with a regular box-car style roof. For machinery equipment I put a swing saw on one side, a rip saw in one end, and a 6-inch jointer in the middle. A line shaft the full length of the car furnishes power to our three machines. A 2½-H.P. engine occupies a place at one end of the car to turn the line shaft.

Some may think 2½ H.P. is not enough for the machinery I have, but I have run the engine in zero weather and in damp weather and it has never yet failed to do the work. Even when ripping two-inch



Contractor Van Winkle's Runabout Shop Closed and Locked Up for the Night.



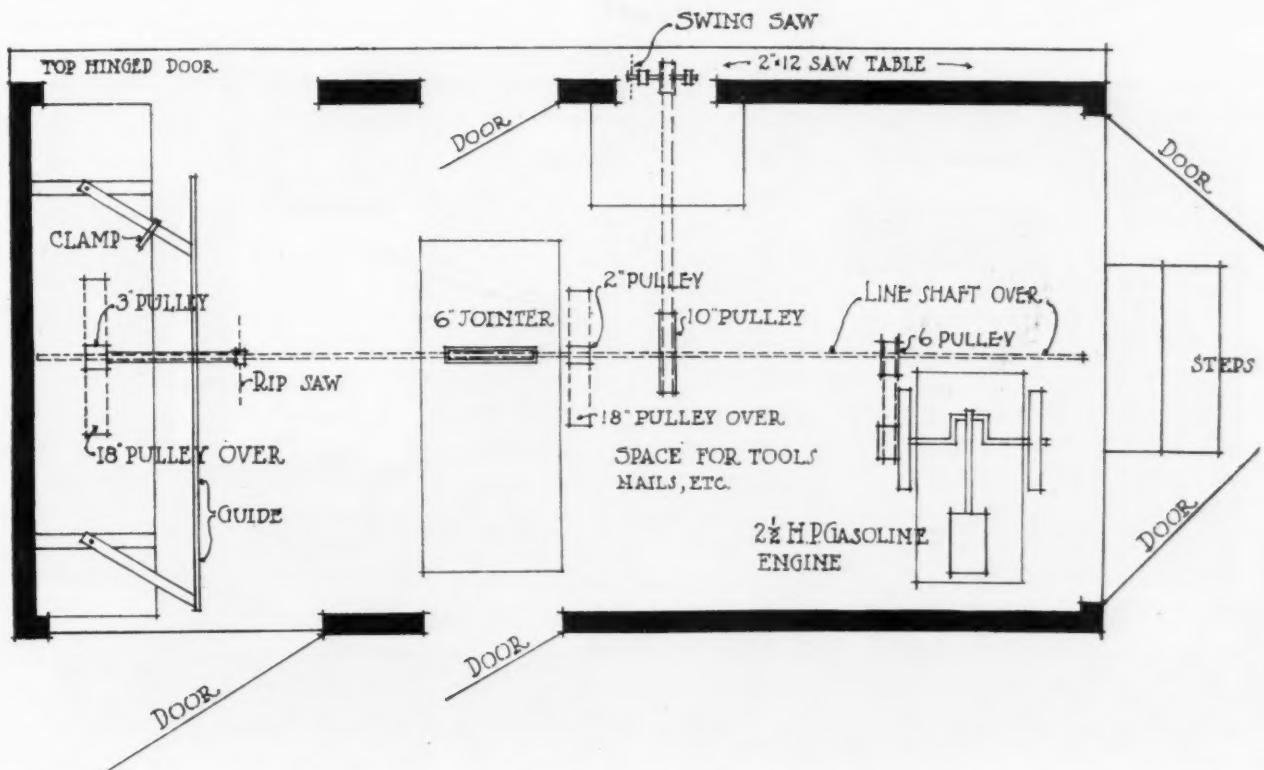
Elmore Van Winkle, Contractor and Builder, of LaPorte, Ind., on the Job with His Portable Power Woodworking Shop.

planks I have not been able to stall the engine.

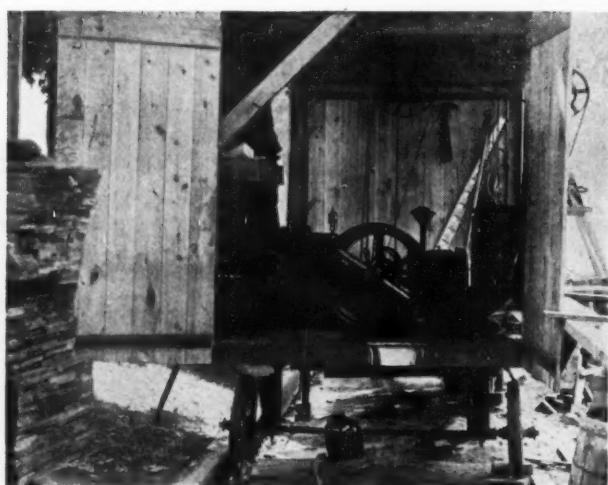
I find this portable woodworker a great assistance in getting my building timbers ready to use. On the swing saw, which you will notice hangs just outside the building proper and is protected from the weather by a special box of its own, I cut all my studding and joist; also frame my rafters, top and bottom, except

those that have ornamental ends, which I rip in and saw out with a hand saw. For this work I am figuring on putting in, a little later, a band saw or jig for bungalow cornices. There is getting to be so much of this rafter end sawing.

Also with my swing saw I cut all bridging at both ends. I handle this easily by tacking a strip on the



Plan View of Shop on Wheels. It is a Platform 6 Feet Wide by 12 Feet Long, Mounted on Stout Iron Wheels. The Equipment Consists of Power Rip Saw, Six-Inch Jointer, and Swing Cut Off Saw All Operated from Line Shaft Driven by 2 1/2 H.P. Gasoline Engine.



End View of Wagon Shop Showing Gasoline Engine.

side of the car to gauge the proper pitch.

On the rip saw I cut out all my corner boards. In fact, the boys in my gang don't carry a rip saw at all anymore. You carpenters know what kind of a job one has of sawing hip and valleys for any good size residence. More than that, they all run even.

The 6-inch jointer serves me well for all small planing and cornice work; also for finishing corner

boards. While the men are running the sheathing up to the windows, I take the measurements for all short pieces between windows and doors and cut the boards just right to fit. In this way I can save both lumber and time. All the men have to do is to nail on the boards.

I used to have to carry a tool house. Now I use my shop car for tools, as well as for nails and other small supplies. The outfit locks up tight at night and that is quite a protection.

Since I have been operating my machine, I find I can build a house in about one-half the time I used to require. My men work easily as they are let out of all that heavy, monotonous hand sawing; and so I get better work done.

The time is past, I believe, for all hand work. People want their work done fast and the contractor who can get the work out on time always has the preference.

I hope these remarks and pictures will help some of my brother carpenters and contractors. I will be pleased to answer any inquiries at any time if anyone wants to know more about this outfit. I have fitted it out myself at odd times, and intend to add to it from time to time as the work demands. It is certainly a great help to me and brings me business.



Close Up View of Shop on Wheels. Lumber is Fed Straight Through to the Rip Saw and to 6-Inch Jointer. The Swing Cut Off Saw Works Outside the Building on a 12-Inch Wide Bench.

ECONOMICS of HOME BUILDING

A Series of Common Sense Lessons Covering Completely
a Typical Building and Purchasing Operation

By Howard & Callmann, Inc., Architects and Engineers,
Far Rockaway, N.Y.

IN TWELVE PARTS—PART IV

House Planning to Save Waste

THE MOST practical method of building substantially with as little waste as possible forms the "Economics of House Building." To accomplish this result it is necessary to proceed as follows:

Plan the building to timber sizes.

Select the most serviceable material available in the locality.

Create keen competition between contractors, mills and supply houses, for the various labor and material required in the construction of the building.

(57) *Excavated Material.* Before preparing specifications, a pit about three feet square and four feet deep should be dug in the area upon which the house is to be built, and an examination made of the various strata (layers of earth).

(58) *Sand.* If good sharp sand is found which can be used for concrete, mortar, plaster and stucco, the specifications should state that this material can be used in the construction of the building; otherwise the Estimators will include for the purchase of it.

(59) *Gravel.* Should part of the strata be good gravel, it will be a saving to build the footings and cellar walls of concrete. A waterproofing compound mixed in the concrete will protect a cellar against dampness which is highly desirable. The gravel can also be used for the concrete cellar floor.

(60) *Loam.* If the soil composing the upper strata is suitable for making a lawn, it should be trenched

How to Utilize Excavated Sand and Gravel—How to Build to Sizes of Timber—Saving the Waste of Framing Timber—Pointers on Economical Construction

out and piled in a heap at a distance from the building, where it will not be in the way of workmen or get mixed with any other excavated material.

(61) *Rock.* If rock is found it can be blasted out and used for the building of the cellar walls, setting it up in cement mortar.

Selecting the Materials for the Building

(62) *Typical Specifications—Pricing Material.* The material for framing should be good bearing timber, such as yellow pine, spruce or hemlock. For convenience and economy choose the timber available in the locality.—When "typical specifications" are used the building invariably costs more. Too much emphasis cannot be laid against this loose way of building.—Specifications should be drawn up after full particulars have been obtained as to the price of local materials. This information can be procured from the lumber and general supply dealers, for timber, plaster, cement, lime, brick, shingles, roof tile, etc. By this means serviceable material can be selected at reasonable cost.

(63) *Classification of Timber.* The Carpenter's material is divided into two classes, the timber (or rough lumber as it is called by the trade) and the mill work.

(64) All floor beams, studs, girders, roof rafters, sheathing, rough flooring, etc., comprise rough timber.

(65) *Estimates from Lumber Dealers.* Lumber

dealers as a rule make estimates on the rough timber from lists sent to them by Builders. They figure according to the listed sizes and deliver the material at the building, for which they take a receipt from the Superintendent in charge of the work.

(66) *Builder Makes Out His Timber Lists.* The reason for this practice of estimating is owing to the difference in the methods employed by various Builders or their foremen in the construction of the work. Some are economical, others through ignorance or carelessness are wasteful. If a lumber dealer contracted to deliver sufficient material to complete a building and it was wastefully constructed, more material than was figured on would be needed. The Builder therefore takes off the quantities and the list should be accurate and according to his own or his foreman's method of laying out the work.

The kind of timber being selected, the method of construction follows:

Pointers on Economical Construction

(67) *Work to Timber Sizes—Not to Figures.* It is the general custom for Owners to give an Architect the sizes of rooms desired, to which he works out his general floor plans, or as near to the sizes given as the plot or other conditions will allow. This often runs the cost of the building above the amount the Owner desires to spend. "Working to Figures" this is called. A much better way is "Working to Sizes." By sizes is meant the sizes into which timber is cut for building purposes; timber is usually supplied to the market in lengths of even dimensions, ten, twelve, fourteen, sixteen, and so on up to thirty feet in length.

(68) *Span of Floor Beams—How to Determine the width of a Room.* Floor beams are supported by the side walls and girder on the first floor and by the side walls and partitions on the upper floors. A 6-inch bearing is required for each end of the beam.



The Best Way is to "Work the Sizes."

In calculating the length of the beams this bearing has to be allowed for. Therefore the rooms should be of odd dimensions. A room 13 feet wide would take a 14-foot beam. If the room is made 13 feet 6 inches wide it requires a 16-foot beam, and would cause a waste of 18 inches on each beam and the labor of the mechanic sawing it off. This 18-inch piece is of no use and is a dead loss—it costs just as much per foot as the timber that is used.

(69) *Spacing of Floor Beams—How to Determine the Length of a Room.* The length of a room should be determined with regard to the spacing of the floor beams. It is customary for floor nailing, to set a beam against the studs at each end wall and the spacing starts from the center of these beams.



Get Bids from Many Contractors.

Floor beams are usually set 16 inches from center to center. Therefore, if the length of a room is 13 feet 4 inches from plaster face to plaster face, it would make ten 16 inch centers, and eleven beams would be required. For every 16 inches additional in the length of the room one beam must be added. Plasterer's lath is cut in lengths of four feet to work to this centering and each lath has four nailings.

(70) *Length of Room Figured by Beam Centers.* If a room about 15 feet long is desired, the room should be figured 14 feet 8 inches, or 14 feet 6 inches if at one end there is a cross partition with double beams under it. This will work to eleven 16 inch centers requiring twelve floor beams. The 4 or 6 inches difference will not be noticed in the actual size of the room.

(71) *Spacing of the Studs.* Upright studs, either 2 inches by 4 inches or 3 inches by 4 inches, are used for the outside walls and inside partitions, and are set 16 inches from center to center to work to the lathing.

(72) *Height of Rooms.* The height of rooms from finished floor to plaster of ceiling is usually figured to the half foot. There seems no logical reason why the height of rooms should be 8 feet 6 inches, 9 feet, 9 feet 6 inches, 10 feet and so on. If a room about

9 feet 6 inches high is required a stud 10 feet long should be used, which will give a height of 9 feet $3\frac{1}{8}$ inches and the difference in height will not be noticed.

(73) To illustrate: Let us assume that the floor beams are 2 by 10 inches and are notched out on the underside 1 inch. This notching gives sufficient play to bring all the beams level at the top ready for the flooring.

(74) Beams vary a trifle in depth from $\frac{1}{8}$ to $\frac{1}{4}$ of an inch. This is adjusted in the 1 inch or less cut, so that when the beams are set on the sill or plates, the upper edges are on a level or "top flush" as it is called.

(75) Therefore, allowing for the notch, the distance from the top of the sill to the top of a 10-inch floor beam is 9 inches. In figuring the height of a room from the length of a stud this 9 inches has to be deducted from the height of the stud, as the studs and floor beams always set on the sill.

(76) Further, a rough floor is $\frac{7}{8}$ inches thick, felt paper $\frac{1}{8}$ inches and the finished floor $\frac{7}{8}$ inches, making in all $1\frac{1}{8}$ inches. This added to the 9 inches makes $10\frac{1}{8}$ inches, which has to be deducted from the height of the stud, leaving 9 feet $1\frac{1}{8}$ inches from the finished floor to the top of the stud.

(77) On top of the 10-foot studs a 4-inch by 4-inch horizontal plate is set; this is an added height of 4 inches. The floor beams of the room above rest on the plate and are notched down 1 inch or thereabouts in the same manner as the beams below, by which 1 inch is lost—allowing a loss of 1 inch more for the lath and plaster of the ceiling, the actual height gained from the plate is 2 inches, which added to the 9 feet $1\frac{1}{8}$ inches makes the actual height of the room 9 feet $3\frac{1}{8}$ inches.

Length of stud.....	10' 0"
From top of sill to top of floor beam.....	0' 9"
Rough floor	0' $\frac{7}{8}$ "
Felt paper and finished floor.....	0' 1"
	0' $10\frac{1}{8}$ "
Gained by the plate.....	9' $1\frac{1}{8}$ "
	0' 2"
Actual height of room.....	9' $3\frac{1}{8}$ "

(78) It can be seen that if the rooms were figured 9 feet 6 inches high in the clear, the next length of stud being 12 feet long, there would be a loss of $21\frac{1}{8}$ inches from each stud in all outside walls and inside partitions on each floor in addition to the time lost by the mechanic.



Examine Nature of Soil on Proposed Building Site.

Additional length of stud.....	24"
Utilized to get room 9' 6" high.....	$2\frac{7}{8}$ "
Waste	$21\frac{1}{8}$ "
	24"

If a stud 22 feet long is used and cut in two—there would be a loss—material $9\frac{1}{8}$ inches—the mechanic's time in cutting—and the additional cost of long length studs over short lengths.

Roof Rafters. The type of roof should be determined first.

(79) Roof rafters, like studs and floor beams, are cut to even dimensions.

(80) Sometimes material can be saved by lowering the pitch of a roof a few inches to use a certain length of rafter, which may not affect the roof shedding water or the general appearance of the building. The length of the rafter should be an even dimension.

Diagonal and Horizontal Sheathing. There are two methods in common use of sheathing a building: Diagonal sheathing and Horizontal sheathing.

(81) When the sheathing boards are laid diagonally they are nailed to the sill and to each stud, which forms a diagonal brace; and it is not necessary to brace the studding. When the sheathing boards are laid horizontally, it is necessary to set diagonal braces between the studding.

(82) Diagonal sheathing takes more time, makes considerable waste and frequently the boards are not fitted tightly together. It is very difficult to trace a rain water leak with diagonal sheathing, as the water follows the diagonal joints. Horizontal sheathing can be tightly fitted, is more economical and gives better results, as in drying out it does not split the shingles or crack the stucco.



His Excuse

A teacher in the public school instructed her pupils to bring in certificates of birth.

At the specified time, all of the pupils complied with the request except one little boy, who remained in his seat, weeping.

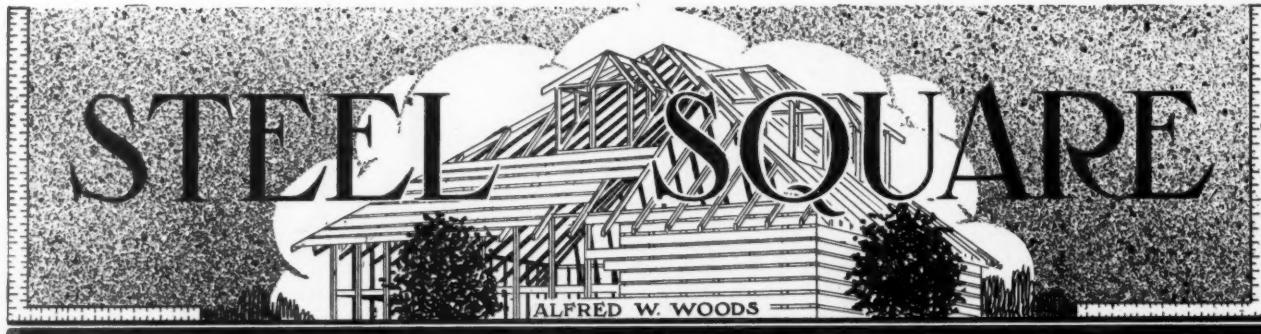
"Why, Antonio," said the teacher sympathetically, "what is the matter with you?"

Antonio's tears fell faster. "I've forgotten my excuse for being born!" he wept.

Not Robust

"George," said Hilda, looking up from the morning paper which she was reading, "it says here that another octogenarian's dead. What is an octogenarian?"

"Well, I don't know what they are, but they must be very sickly creatures. You never hear of them but they are dying."



How to Figure an Octagon Frame

SHOWING THE POSSIBILITIES AND USE OF THE STEEL SQUARE FOR THIS WORK.

By A. W. Woods

OUR old porch is giving way and so we are arranging to build a modern porch in its stead. And opening off from the Northeast corner, will be an octagon summer house, fourteen feet in diameter. This will have a substantial non-leak roof and on top of this and around its sides will be a trellis frame work on which to train the vine in the future, so that when in it we can see out and when out can see in. Yes, and we are going to have it screened so that there will be no flies on us.

The octagon is 14 feet in diameter and since the side of an octagon for a one foot diameter is 4.97 inches, for 14 feet it must be 14 times 4.97, equals 69.58 inches, or practically 5 feet 9 $\frac{1}{2}$ inches. By taking this amount from 14 feet equals 8 feet 2.42 inches, and this divided by 2 equals 4 feet 1.21 inches, or practically 4 feet 1 $\frac{1}{4}$ inches represents the distance at either side from the square corner to the corner of the octagon. So much for the foundation.

Now, let us look to the superstructure. Taking the same figures, 12 and 4.97, as we used for finding the side of the octagon for the foundation, we obtain the octagon cut; and since 4.97 is so nearly 5, we will call it that, because it is so near to being absolutely correct, no one could distinguish the difference in common frame work,—and so we will say 12 and 5 for miter which rests at 22 $\frac{1}{2}$ degrees from the square cut. If a lap joint is wanted for the plate, then double the degrees which will be at an angle of 45 degrees; 12 and 12 will give the cut.

For the seat cut of the hip, we take 13 because that is the length from 12 to 5 and the rise of the roof to the foot in run. In this case, it is 7; then 12 and 7 give the seat and plumb cuts; and of course it is understood that 12 and 7 will give the same cuts for the common and jack rafters. For the side cut of the jack, it is 5 and the length of the common rafter for a one foot run, which in this case, the rise being 7, is 13 $\frac{1}{8}$ inches. The side of the square on which the latter is taken, will give the cut. These same figures will give the cut across the face of the roof board to fit over the hip.

Say we wish to have the finial block shaped to a true

octagon with sides wide enough to receive the hip rafters, which are 2 $\frac{1}{2}$ inches thick. A 6-inch block will just make it. Why? Because $6 \times 5 = 30 \div 12 = 2\frac{1}{2}$ inches, answer. Thus you see the same rule applies to the little block at the top that we used to find for the large octagon foundation.

We used the decimal 4.97 for the foundation because it being so large, the discrepancy in 14 feet would amount to nearly half of one inch. However, for practical purposes in the common run of work, such as for foundations, by multiplying the diameter by 5 and then deducting $1/32$ of an inch for each foot in diameter will be accurate enough.

Thus, it will be seen that all of the cuts and bevels contained in the structure, hinge back to the beginning for a basis from which to work.

Some Good Carpentry Kinks

By Peter Hedstrom

Architect

BENCH VISE. A good bench vise which is quickly and easily made is illustrated in Fig. 1. Pieces A and B are nailed solid and piece C is movable. Board to be held is placed with the end against the shoulder and pushed forward, moving the piece, C,

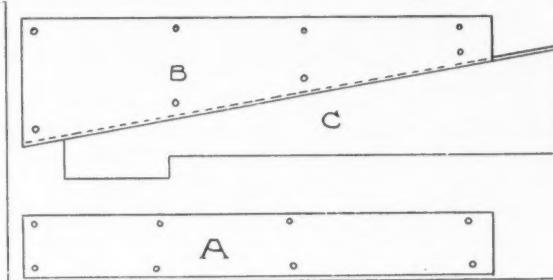


FIG. 1

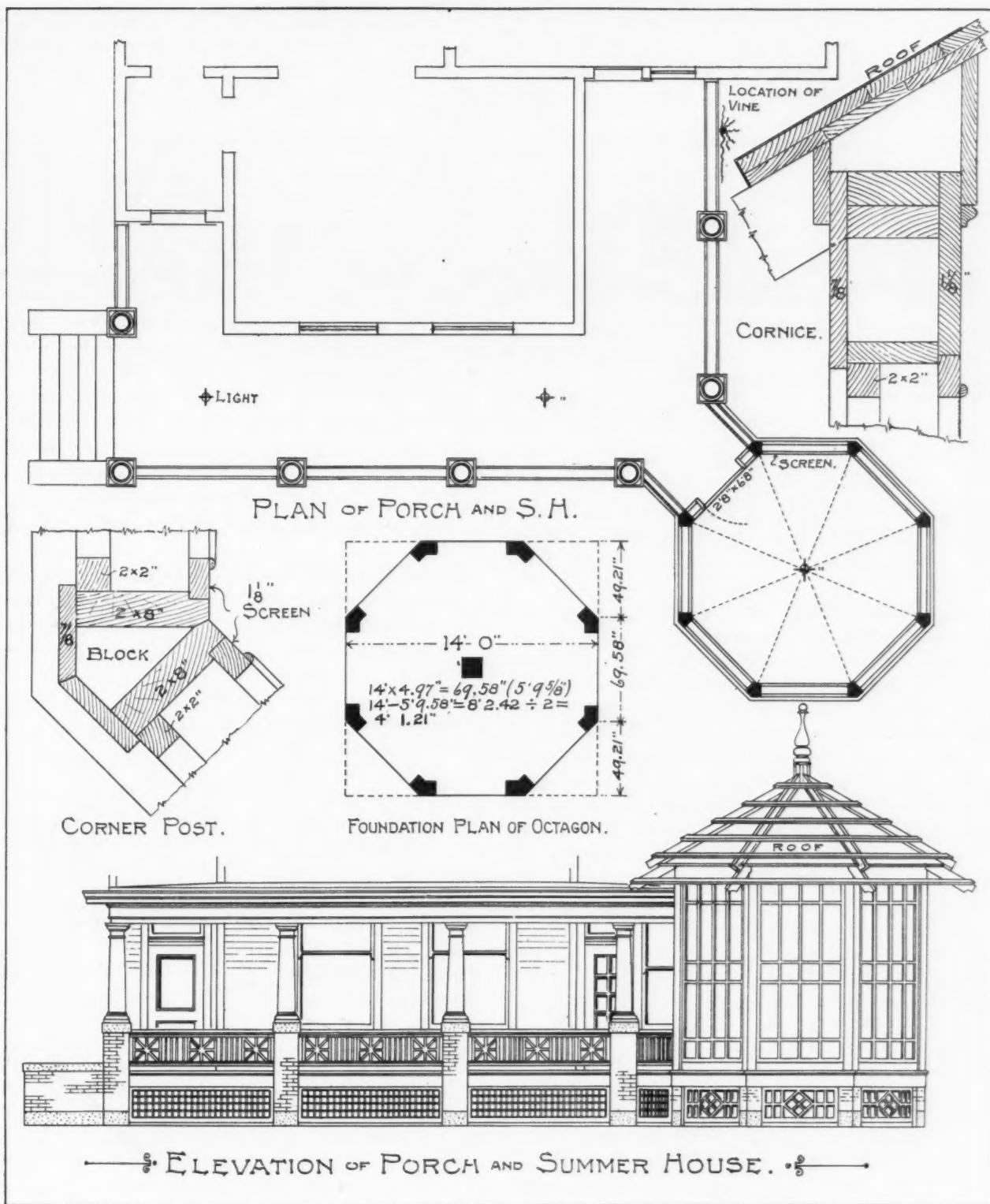
Fig. 1. A Very Handy Bench Vise That Works on a Wedge Principle.

with it, and thereby clamping it tight. The joint between B and C should be beveled to keep C from working up.

KEEPING OIL STONES IN SHAPE. To do good and fast work it is essential to have sharp tools. For keeping edged tools in proper shape there is noth-

Figuring an Octagon Frame

73



Details of Construction of Mr. Woods' Octagon Summer House Porch Extension as Described on Opposite Page.

ing better than a double-faced carborundum oil stone. But the stone, too, should be in good condition or it will not work to the best advantage. Carborundum is very hard but lots of rubbing wears it and the stone in time becomes hollow and then makes the tools rounding unless one is very careful. Stones can be kept straight by occasionally rubbing them on a piece of sand paper laid on a flat surface or by rubbing

on some smooth concrete or stone. Most carpenters, however, let them go until to rub them straight would be a very laborious operation. The best remedy, when such is the case, is to separate the two halves by heating until the cement is soft; remove all trace of the cement by soaking in alcohol and scraping; glue the two parts together again with the hollow sides facing each other, and fill the space between them with

a stiff paste made of fine sawdust and liquid glue. Clamp or tie together for a few days and use carefully at first, as the glue in the center takes a long time to set. This makes the stone as good as new and doubles the length of its service.

SPACING BALUSTER, ETC. To determine the equal spaces between baluster, ceiling beams, panel strips, etc., add to the total distance to be spaced the size of one of the balusters or beams and divide the amount by the number of spaces. The answer is the

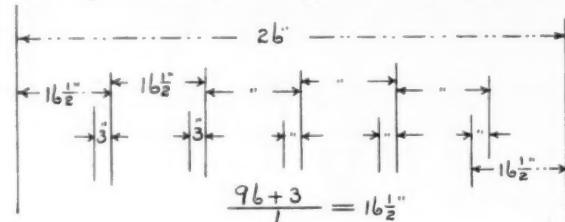


FIG. 2.

Fig. 2. Pictorial Demonstration of Baluster Spacing Rule.

distance from the starting point to the far side of the first baluster or beam, and from there to the far side of the next one and so on. Fig. 2 illustrates the method.

FITTING LOCKS. Locks should be fitted, but not fixed in place until the painting is all finished. To do fast work when one has a number of locks of the same size to fit one should use a template for locating the centers of all the holes to be bored. This is made of a board $\frac{3}{4}$ inch by the thickness of the doors; long enough to reach from the top or bottom of the door and to a little past the lock and having a shoulder or hook on one end. In the middle and at the proper distance from the shoulder drive a number of nails

through the board, cut off the nails and file to a point about $\frac{1}{8}$ of an inch long. The points should correspond exactly with the centers of the holes to be bored for the mortise.

Fig. 4. Use "common" nails and nail a piece of board over the heads to keep the nails from coming out. On each edge of the board, where the nails are, nail a piece of heavy tin about 4 by 5 inches and punch holes in it from the outside to correspond exactly with the holes to be bored for the spindle and the key.

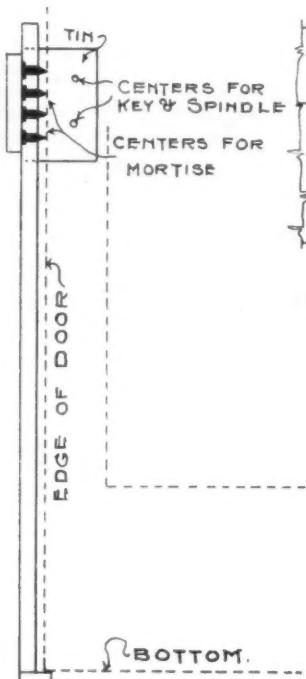


FIG. 3.

Details of Lock Mortising Gauge.

Punching the holes from the outside leaves a burr on the inside, and this marks the centers for the holes when the tin is tapped lightly with the hammer. To use, place the board against the edge of the door and drive up tight, taking care that the shoulder is against the bottom or top of the door, as the case may be. The nail points mark the centers for the holes for the mortise and the holes in the tin mark the centers for the holes on the side. If the doors are all the same height, make the board to measure from the top; if not, make it measure from the bottom or by resting it on the floor. Fig. 3 shows a sketch of it. This idea can be made use of for a great many things where it is required to bore a number of holes in a certain place. Mortising for flush sash lifts, for instance. On the latch of the lock used for a pattern, file two prongs, as shown in Fig. 4. When the lock is fitted, shut the door and on opening it there will be two marks on the jamb indicating exactly the position of the strike. Filing the prongs does not in any way injure the lock, as they can be filed away when through with it.

GAINING JAMBS INTO SILLS. A quick way to gain window jambs into the sills is shown in Fig. 5. The bottom of the jamb is cut off square; the depth of the gain at the outer edge of the blind stop is zero, and at the inner edge

of the jamb the depth is determined by the pitch of the sill. It is quickly made, as a straight saw cut gives the depth, but rapidity is its only advantage, and it is not recommended for high-class work.

MITERING RETURN ON STAIR TREADS. To cut the miter for the return on stair treads

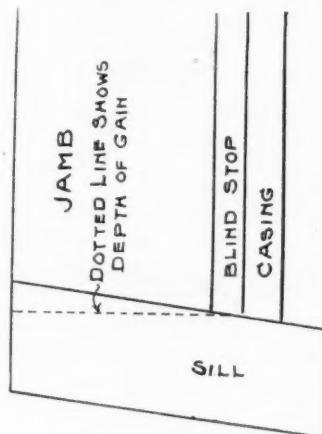


FIG. 5.

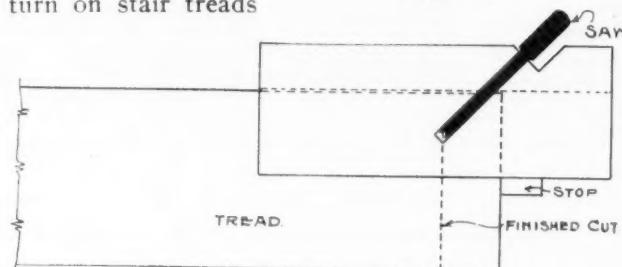


FIG. 6.

Quick Methods of Working Window Sills and Stair Treads.

accurately and quickly make a miter box, as shown in Fig. 6. Make the sides of hard wood, if possible, and the distance between them equal to the thickness of the treads. Use an ordinary miter box saw and make the box so that the back of the saw will stop it at the required depth.



Locking Garage Doors

PART IV. ARRANGEMENTS FOR LOCKING SPECIAL GARAGE DOORS

By E. J. G. Phillips

Engineer with the Richards-Wilcox Mfg. Co.

Special Door Plans

The simplest method of locking flush doors (Fig. 15) is to lock door No. 2 to the jamb and use a flush door bolt at *U* and *U'*. Fitting the meeting stiles of the doors with astragals or tongue and groove will result in a weather-tight joint. If necessary to lock from the outside, door No. 2 is locked to the jamb, and door No. 1 is then locked to door No. 2 with a mortise garage door lock. It must be borne in mind that door



Fig. 15. Plan View of Pair of Flush Doors.

No. 1 is always opened first and closed last. A short piece of angle iron should be set into the floor at *V* to hold the back end of the door close to the wall.

Doors hinged together and operating on curved track

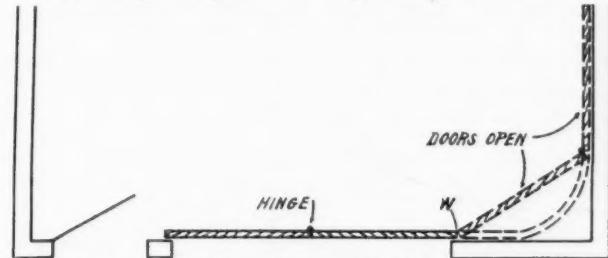


Fig. 16. Method of Operating a Pair of Right Angle Doors Hinged Together.

as in Fig. 16, are locked similar to flush doors, but are most conveniently operated from the inside only. Only one bolt is required where the two doors join, the hinges serving to hold the doors together. Another flush bolt is used at *W* instead of the angle iron guide. The same method of locking is employed for any number of doors.

Combination of Doors

The combination of a straight sliding door and a right angle door, shown in Fig. 17, requires a guide roller at *X*, a mortise lock to secure the two doors together at the center and the rear end of the right angle door is locked as described in a previous para-

graph under right angle doors. Door No. 1 is opened first and closed last.

Another combination is shown in Fig. 18; a right angle door and a door on curved track, both doors sliding to the same side of the building. Set an end

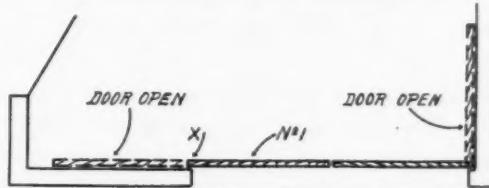


Fig. 17. Combination of Straight Sliding Door and a Right Angle Door.

floor stop at *Y* and *Y'*, and floor bolt at *Y* and a parallel door bolt or a top and bottom bolt at *Z*. This provides for locking from the inside. To lock from the outside, the right angle door must be closed last and the mortise lock, described in Fig. 4, used at *Z* instead of the parallel door bolt or the top and bottom

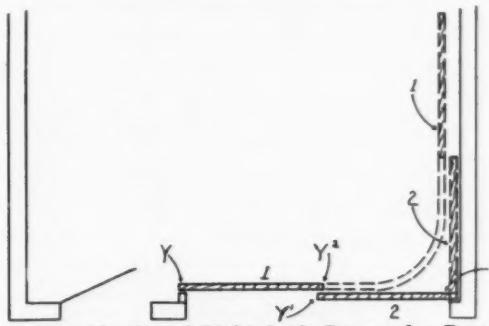


Fig. 18. Combination of Right Angle Door and a Door on a Curved Track.

bolt. The doors must not lap each other too much at the center or door No. 1 will interfere with door No. 2 when starting to open.

The object of these articles has been to consider and to present satisfactory solutions for some of the more difficult locking propositions commonly met with in garage door work.

The methods shown and the locks described are typical of present practice and with slightly varying combinations will lock almost any style of garage door.



What Every Architect and Builder Should Know About Strength of Materials and the Design of Safe Construction

Noon Hour Talks by the Boss Carpenter

Talk No. 30—Howe Truss for Flat Roof

THE BOSS TELLS HOW TO FIND THE STRESSES IN A HOWE TRUSS LOADED AT THE JOINTS OF THE TOP AND BOTTOM CHORDS.

WHEN the men had settled down for the regular noon hour talk, one of them brought out a piece of paper on which he had drawn the roof truss shown in Fig. 24.

"I know, Boss," said the man, "that you were to show us another steel truss today, but here is something that has kept me guessing for two evenings already. This is a picture of one of the trusses that were used on that new building on Main St., and I would like to know how to figure the stresses in the members. I am puzzled to know how to handle propositions of this kind where a flat roof is to be supported, and also where there is a ceiling to be held in place. The top and bottom chords of this truss are made of timber. The slanting braces are also of timber, but the vertical members are round steel rods fitted with plates and nuts at the ends. I think that Fig. 24 will give you a good idea of the layout.

"Fine," said the Boss; "that is what is commonly called a 'six-panel' Howe truss, and after I answer your question in regard to the stress diagrams, I will tell you a few things about the general proportions of

a roof truss of the type shown."

Turning to the "log book," the Boss copied Fig. 24 into the book and then commenced to draw Fig. 25, using a skeleton outline of the truss shown in Fig. 24 as a basis.

"You fellows know by this time," said the Boss, "how to find the amount of dead load carried by each of the joints in any ordinary form of truss. I have explained this very thoroughly in previous talks and will not stop to go over the ground again. In this case we will use an imaginary load of 1,000 lbs. The true load will depend upon the weight of the truss, roof construction and roof covering as already explained. The 1,000 lbs. will be sufficient to show you the diagrams and the principles involved.

"This first diagram (Fig. 25) will show you how to find the stresses in the members when no ceiling is to be supported and where the loads are the dead load and snow load only. On roofs of this type where the slant is less than 4 inches to the foot, the wind load may be neglected without any appreciable error. The principles shown in Fig. 25 are just as good for the

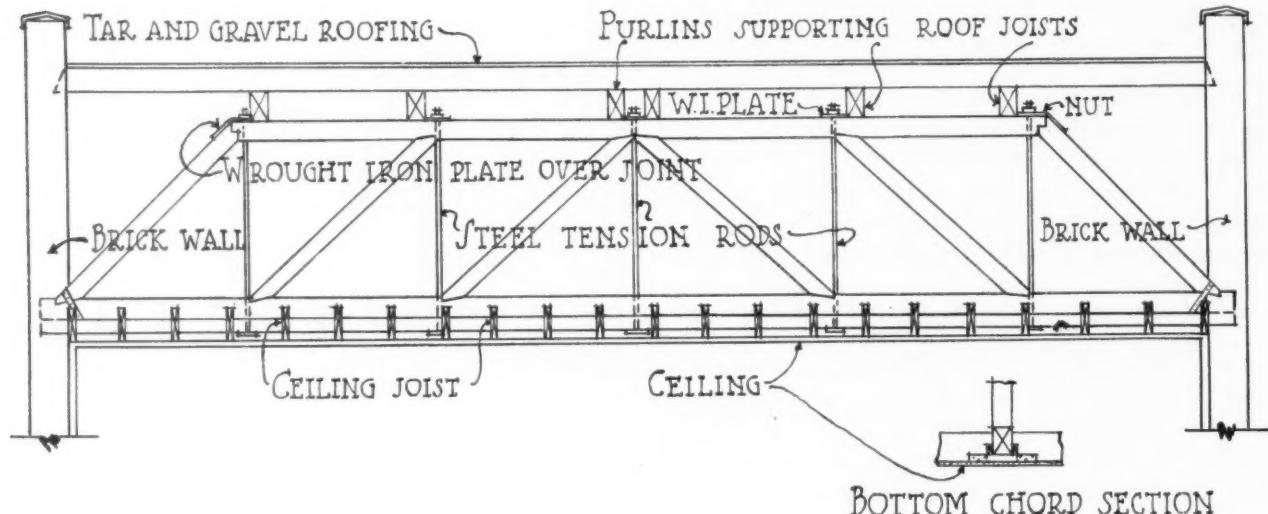


Fig. 24. A Six-Panel Howe Truss for Flat Roof.

Howe Truss for Flat Roof

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snow load as for the dead or roof load. Separate diagrams may be made for the two loads and the stresses from each diagram entered in a table and then added as in previous cases, or the dead load and snow loads at each joint of the top chord may be added in laying out the load line. This latter scheme will give a diagram which may be measured direct

as the point *l*, thus showing that where no loads are supported from the bottom chord, the member *lm* is not needed. Similar members on the other side of the center of the truss have values like those given above on account of the even distribution of the load.

"Bow's notation gives the kind of stress in these various members as shown below:

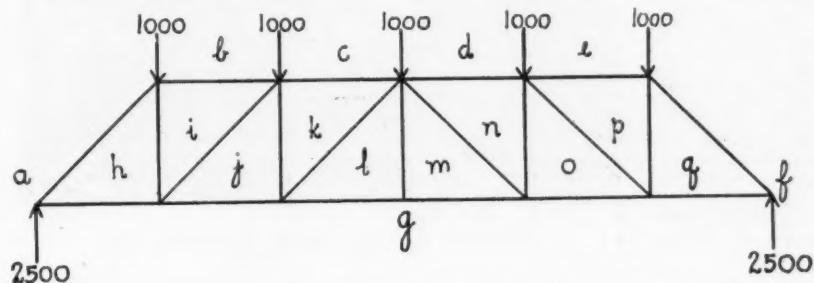


Fig. 25. Dead Load Stress Diagram for Roof Loads Only.

for the stresses due to the two loads acting at the same time. You have a table of snow loads for different climates given in an earlier talk."

The Boss lettered the truss as shown in Fig. 25 and laid off the load line as shown at the right of the figure. He chose a scale of 1 inch equals 1,000 pounds, and laid off *ab*, *bc*, *cd*, *de*, and *ef*, each equal to 1,000 lbs. Then he divided this line into two equal parts, *fg* and *ga*, each representing a supporting force at the wall of the building.

"Now," said the Boss, "we will do just as we have done in our other diagrams. Begin at the left end of the truss and draw *ah* from the load line parallel to the member *ah* of the truss. Then draw a line from *g* on the load line parallel to the member *gh* of the truss. Where they meet will be the point *h*, which

ah = *fq*, compression.

hg = *og*, tension.

gh = *qq*, tension.

jk = *on*, tension.

hi = *pq*, tension.

ck = *dn*, compression.

bi = *ep*, compression.

kl = *mn*, compression.

ij = *op*, compression.

lg = *mg*, tension.

"The snow load diagram would be constructed in a similar manner, using the snow loads at the joints instead of the dead loads.

"If a ceiling is to be supported from the bottom chord in addition to the dead load and snow load, the ceiling loads may be made a part of the dead load diagram as shown in Fig. 26. Let us assume that the loads at the top chord joints due to the roof load and weight of truss are 1,000 pounds each, and that each ceiling load at the joints of the bottom chord is 500 pounds. Then we would proceed to lay off our load line in Fig. 26 as follows:

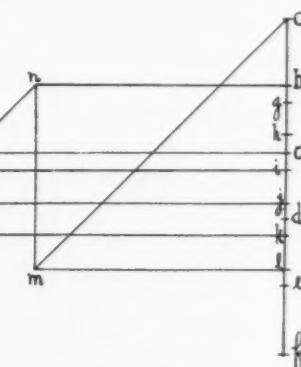
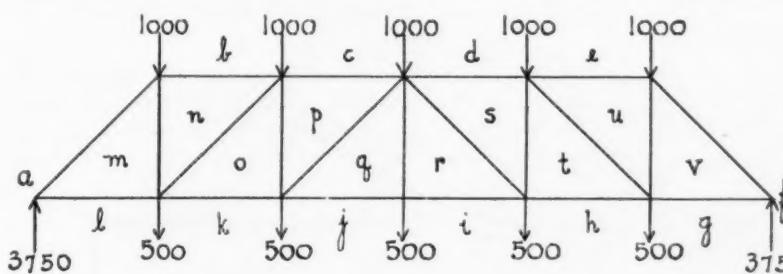


Fig. 26. Dead Load Stress Diagram for Roof and Ceiling Loads.

is common to both lines. As you know, the length of each of these lines, when measured on the scale of 1 inch equals 1,000 lbs., will give the stress in these members due to the load at the top joint. Then draw *bi* and *hi* from the points *b* and *h* parallel to the members *bi* and *hi* of the truss. This will locate the point *i* where they meet and will give the stress in the members *bi* and *hi*.

"In a similar manner, draw *ij* and *gj*; then *jk* and *ck*; then *kl* and *gl*. If you try to draw *lm* and *gm*, you will find that the point *m* falls at the same place

"Lay off to scale *ab*, *bc*, *cd*, *de*, and *ef*, each equal to 1,000 pounds. Then lay off one-half of the total load on the truss, 3,750 pounds, as a force *fg* upward on the load line. This force is laid off upward since the force itself acts upward. Then lay off *gh* downward on the load line and equal to 500 pounds. Likewise, *hi*, *ij*, *jk*, and *kl*. A force of 3,750 pounds, *la*, will now check back into the point *a*.

"To find the stresses in the members, draw *am* from the point *a* on the load line parallel to the member *am* of the truss. Draw *im* from the point *l* parallel to

Howe Truss for Flat Roof

[January, 1915]

lm of the truss. Where these lines meet will determine the point *m*. Then draw *mn* and *bn*. Then *no* and *ko*; *op* and *cp*; *pq* and *jq*; *qr* and *ir*. These lines are drawn parallel to the members of the same letters shown in the truss. There is no need of drawing the diagram for the whole truss since similar members on each side of the center line will have the same stress.

"It will be noticed that the kind of stress in the members of the truss has not changed. Bow's notation will show this. The center tie in this case carries an amount of tension due to the ceiling load directly under the tie.

"I believe," said the Boss, "that the above explanation will show you how to determine the stresses that puzzled you. Now I will tell you something about the general proportions of these trusses.

"Howe trusses are economical for spans up to 100 feet in length. The number of 'panels' or sections between joints on the bottom chord will vary with the span. This number is found by deciding that the slant of the braces shall lie between 36° to 60° . A common slant is 45° , as shown in Fig. 24.

"The height of the truss measured from the center of the bottom chord to the center of the top chord varies from $1/6$ to $1/10$ of the span. It is often stated that trusses less than 36 feet in span should have a height of at least $1/9$ the span. A common height is from $1/6$ to $1/7$ of the span. The six-panel truss shown is used for spans up to 60 feet, but for greater spans a seven- or eight-panel truss should be used.

"Although the ceiling is shown in Fig. 24 to be supported on rafters resting directly on the bottom chord of the truss, purlins might have been held by stirrups placed at the joints of the bottom chord with the ceiling rafters running in the other direction from that of those shown. The bottom chord in Fig. 24 would have to be made larger than in the case where purlins carry the ceiling loads direct to the joints of the bottom chord, on account of the bending action due to the distributed ceiling load on this member.

"Next time," said the Boss, "I will go on with the Fink truss that I told you about in our last talk."



A New Church at Dawson, Minn.

Here is an illustration of the Hauges Lutheran Church, recently completed at Dawson, Minnesota, at a cost of about \$26,000; and at the time of dedication it was practically out of debt, which speaks well for Dawson and the community, taking into consideration that Dawson is a town of only about 3,000 population. It is situated in one of the best grain growing and stock raising sections in the Northwest and is settled largely by sturdy Norwegian stock.

The church occupies a Northeast corner lot. It is of brick construction with "Twin City" variegated mat faced brown brick, with darker shades below the watertable and all brick laid in "Carney's" cement



New \$26,000 Lutheran Church at Dawson, Minn.

mortar. The trimming is of white cement, molded stone.

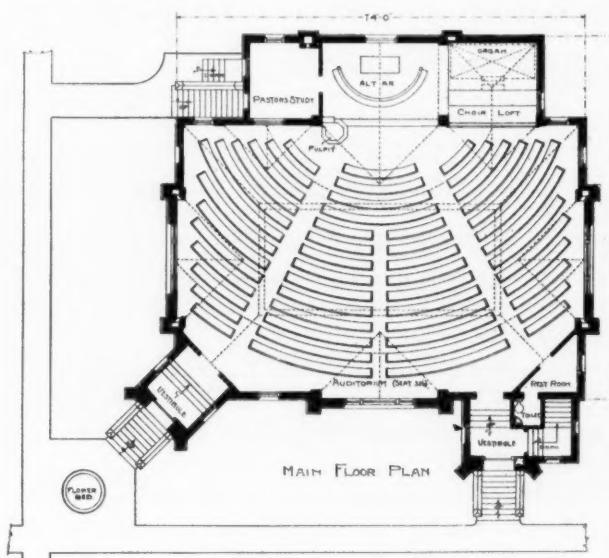
The roof is covered with asbestos shingles, making the same practically fire-proof from the outside.

The arrangement consists of a large auditorium, pastor's room, altar, organ and choir loft, also a small rest room on the main floor. It has a bowl floor of 18 inch fall in 27 feet and the walls and ceiling are nicely decorated.

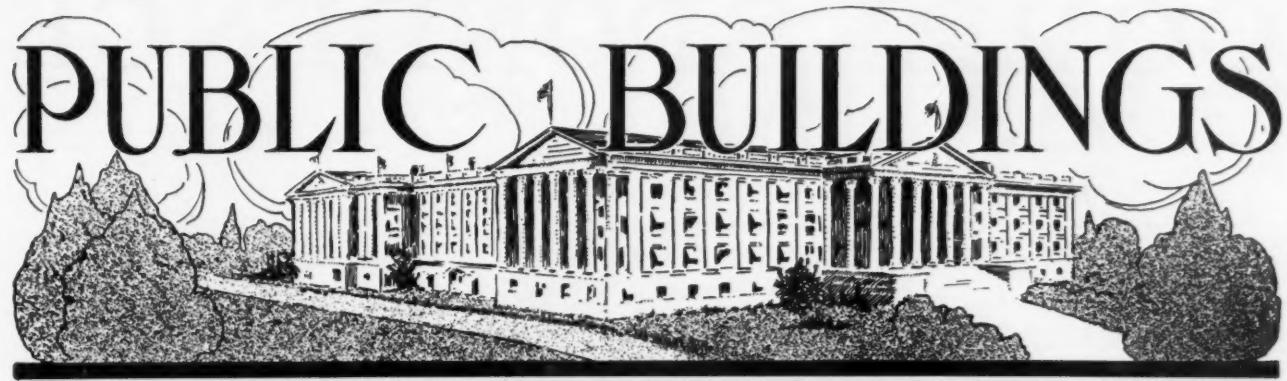
The basement is arranged for Sunday School and social purposes. The building is heated by steam, electrically lighted and made modern throughout.

Mr. Albert Bjoraas of Chippewa Falls, Wisconsin, was the contractor and in this he has erected a monument that he can refer to with no small degree of pride for good, honest work without fear of contradiction. J. E. Hill was the Secretary of the Building Committee. The plans and specifications were furnished by A. W. Woods, Architect, of Lincoln, Nebraska.

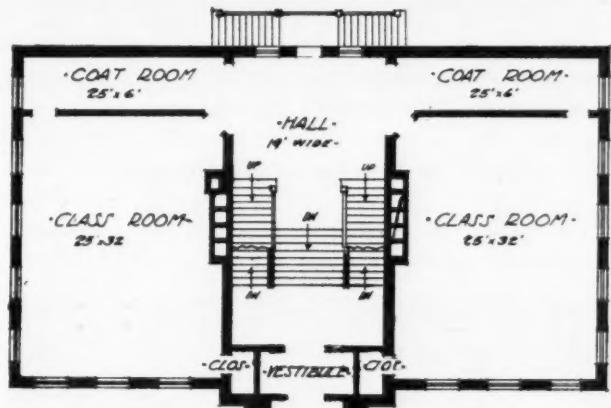
Apple wood, used almost exclusively for saw handles, also furnishes the material for many so-called brier-wood pipes and particularly for the large wooden type used in printing signs and posters.



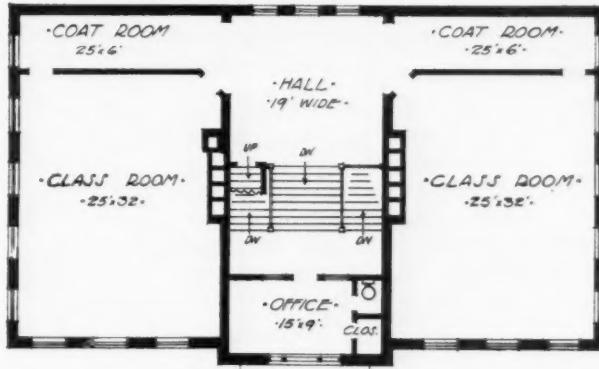
Main Floor Plan of Dawson, Minn., Church.



D. H. Burnham School Just Completed at Warren Park, Ill.



First Floor Plan.



Second Floor Plan.



DANIEL H. BURNHAM SCHOOL

Four-Room School Building of Modern Design Just Completed at Warren Park, Ill. Architect, G. W. Ashby, Chicago.

CORRESPONDENCE



Questions Answered and Ideas Exchanged.

Our Readers Are Requested and Urged to Make Free Use of These Columns for the Discussion of All Questions of Interest to Carpenters and Builders.

Redraws Plans in Spare Time

To the Editor: _____, Tex.
Here is a brief outline of my methods of getting the most out of the dull seasons.

In the first place, I am a country carpenter. Conditions here in the Southwest differ from those in the North and Middle West in many ways. The dull seasons are just as apt to hit us one time of the year as another, and that adds to the problem of "What shall I do for a livelihood while someone is getting ready to build a house or barn?" Of course, I pick up all sorts of jobs I can get at such times, such as ironing boards, tub racks, kitchen cabinets, cook tables, bookcases, wardrobes and various kinds of clothes boxes and chests. But the thing that has paid me most for time and money invested, has been gained by a close study of such books as I have been able to get, that have any bearing on my line of work, combined with a lot of drill work on plans, both original and old plans worked over to suit different locations. For here in the country a plan that just suits one location will seldom be of any use somewhere else.

By this means I have been able to help folks to settle on the plan best suited to their needs and location. This plan study has also been of use in that it gives me a better chance to make a close estimate on the cost of both labor and material for any particular piece of work.

It is a fact that lots of good workmen get in a rut and there they stay because they get the notion that they have the only method that is any good for doing certain kinds of work. That's a great mistake. If I had not been willing to learn all I could from the other fellows, I would not now be getting double the wages I did three years ago, to say nothing of being able to get work nearer all the time. It is a fact that the better the wages a man is able to earn the more work there is to come his way, and the better the job you turn out the faster your reputation for honest work will grow. That is an item that should be looked after if you want to build up a good, steady trade. The prospects are not at all favorable for a country carpenter to get rich in this part of the country, for there are too many "jacklegs," but at any rate, there is an honest living to be made if he can only find work at fair wages. By making the best job possible with the material at hand, even on the meanest, cheapest old repair jobs, I have been able to build up a reputation for resourcefulness. That is surely worth something.

Most of my work here has been by the day, though I do some contract work, but there have been so many shady contract jobs turned out here that most of the folks prefer to hire by the day.

Hope this may help some of the boys to get by the dull season and be better equipped for work when it does get brisk.

I am one of the boys who is always glad when my copy of the AMERICAN CARPENTER AND BUILDER arrives, for I get new ideas from each number.

M. L. TAYLOR.

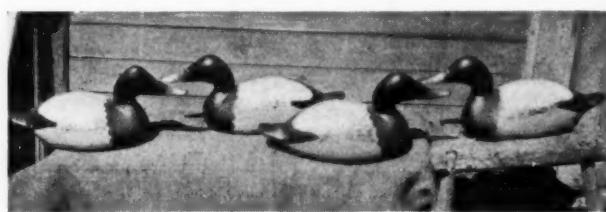
(Address withheld by request.—Editor.)



Decoy Ducks at \$1.00 per.

To the Editor: Blenheim, Ont., Can.
I make Decoy Ducks like these in the Winter months which sell at a dollar apiece.

A. R. MARKSLY.



Decoy Ducks Which Bro. Marksly Makes and Sells at \$1.00 Each.

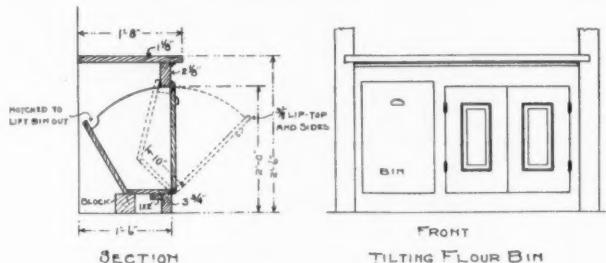


Tilting Flour Bin

To the Editor: Fort Dodge, Iowa.
Have never contributed anything to your valuable Journal, but take great interest in the Correspondence Columns.

In the October number of your Journal, is a sketch of a tilting flour bin, contributed by M. E. Mulloy, of Dallas, Texas, which is very good. Am enclosing sketch of bin as I make them, which is very simple, easily removed, works to perfection and is well balanced.

I have put in a good many of them and they have always given satisfaction. These bins are made from 13/16 inch



Details of Tilting Floor Bin and Pot Cupboard.

material and can be made to hold from 50 to 100 lbs., as desired, either of flour or sugar.

If any one has a more simple one that will work to perfection, I would like to see it.

W. L. KERR,
Contractor and Builder.

How to Finish Red Gum Interior Trim

To the Editor:

I would like to know what stain I should put on red gum in order to imitate Circassian walnut.

F. A. FUNKHOUSER,
Director State Agricultural School.

Answer: Would suggest that all of this lumber be thoroughly impregnated with linseed oil on the back to keep out the moisture. This is especially necessary if the wood is to be put up against green plaster. Would also suggest the use of blunt finishing nails instead of sharp-pointed ones, as the sharp nails quite often split the wood, where the blunt-pointed ones simply break down the fiber. Of course, screws are preferable to nails always, but few people like to use them on account of the rather excessive cost of doing so.

To finish red gum natural, it is simply necessary to apply a thin coat of white shellac, and follow with two coats of some standard wood finish.

If any stain is desired, it may be simply brushed on the unfilled wood and then wiped lightly with a soft cloth before it sets. After that, the coat of white shellac and the two coats of wood finish should follow.

Users should be cautioned about permitting the painter to fill red gum before applying the finishes. It is a wood which does not require filling, and the beauty of its figure is lost when it is filled.

It is important to purchase the lumber for gum interior finish from some thoroughly reliable manufacturer; extreme care must be taken in the kiln drying of this lumber, and if bought from irresponsible manufacturers it is likely to be too "green" to do itself justice.

Finishing—For furniture, interior trim, and fine cabinet work the use of red gum gives to architects and designers a wide latitude for taste and individuality in color schemes. Red gum is especially adaptable to a dull wax, or oil finish, and a beautiful effect is brought out in the natural finish, as all red gum, whether plain or figured, is peculiarly pleasing and attractive. Figured red gum especially, with its ornate richness of stripes and variable color tones, yet with a character as soft and delicate as the sheen of fine satin, shows with unusual effectiveness that subtle, artistic quality which attracts but never tires the eye, and lends quality, dignity and grace to its environment. Red gum, "finished natural," is rapidly growing in favor among people of taste and refinement who prefer to exercise their own individuality and judgment rather than follow the dictates of historic bias.

Any of the following stains, however, when properly done, may be employed with entire success and with entire success and with very handsome results: Mahogany (light or dark), Black Walnut (American), French and Italian Walnut, Circassian Walnut, Flemish Brown, Forest Green, Mission and Dutch Brown, and Silver Gray.

Quartered red gum, on account of its peculiar grain, is most adaptable for use with mahogany stain, which

brings out the changeable color tones, closely resembling mahogany. When either walnut or mahogany stains are used, the most pleasing colors are produced. The stain is not applied sufficiently heavy to obliterate, but just enough to leave plainly visible the beautiful grain of the wood.

No. 1. Furniture Finish. First, sand-paper the wood perfectly smooth (this is very essential in any wood in order to obtain a good finish). Then apply one coat of shellac, sand-papering this coat when dry; then two or three coats of high-grade varnish, rubbed down with a steel wool between each coat. The final coat should stand for at least eight days, after which it should be rubbed with water and pumice stone first, and the next day with rubbing oil and pumice.

If a stain is desired, the same process should be followed excepting that first the finisher should stain the wood to the desired color.

No. 2. Wax Finish. First, one coat of white shellac, sand-paper when thoroughly dry, then finish with prepared wax.

No. 3. Walnut Finish. To put a walnut finish on gum, the following formula will give perfect satisfaction:

1 1/4 oz. walnut crystal.
1/4 oz. blue-black nigroene.
Mix with two gallons of water.

If a lighter color is desired, reduce the stain half with water. On top of this, after dry, it should receive two coats of white shellac, this to be sanded down and waxed.

No. 4. Eggshell Gloss for Interior Finish. Two coats of pure white shellac, two coats of clear rubbing and polishing varnish. Allow each coat to dry thoroughly and rub down with steel wool between each coat; the final coat to be rubbed down with pumice stone and oil.

No. 5. White Enamel for Interior Woodwork. Sap gum and red gum have superior qualities for taking and retaining paint for white enamel finish. Apply three coats of flat white. (By "flat white," it is meant simply to reduce the white lead with turpentine.) Afterward apply two coats of any good enamel varnish. Time should be allowed between each coat for the paint to become thoroughly dry (the last coat may be rubbed with pumice stone and water if desired).

No. 6. White Enamel for Pianos or Furniture. Grind dry, white lead in alcohol, then add white shellac in a proportion of 10 pounds of white lead ground in alcohol to 1/2 pint of white shellac. Apply eight coats. The first few coats should be rubbed with sandpaper; the last coat should be rubbed with pumice stone and water, and polished with rotten stone. This finish on gum is equal to polished ivory. It is essential that only good, grain alcohol be used.

JOHN BEMER CROSBY.



Wants to Build Ice Boxes

To the Editor:

Indian Reservation,
Rosebud, So. Dak.

I have several ice boxes to make for Indian schools this winter. I would be pleased to have you describe the best method of making a box that will hold 35 lbs. of ice and 40 lbs. of meat, and a few vegetables.

JOHN M. EGE

The Bulletin Board

Practical illustrated articles wanted from men who know what they are talking about. The Editor particularly invites Contributions on the following:

SOUND PROOFING—What is the best way and the cheapest way to make an apartment sound proof? I have special reference to the floors and am not so particular about the partition walls.

This would be a regular apartment, using two by eight joists with the customary rough flooring and finished flooring. It is the common practice here to use pulp for plastering and as that acts as more or less of a sounding board throughout the whole apartment it is necessary to get some economical way to offset the resulting noise.

R. C. P.,
Springfield, Mass.

WINDOW REFRIGERATOR—Will you please publish a plan for making a "Window Refrigerator" or a window storage box for foot? I would like to know how to put in the hole for to make a free ventilation of air in the box.

By using one of these boxes a person can do away with the inconvenience and expense of taking ice and at the same time do away with sour milk and spoiled vegetables and meat for the want of a cool place to keep them.

BENJ. R. BUSH,
General Contractor,
Keyport, N. J.

Recommends Steel Wool

To the Editor:

In the last issue, Thos. W. McCann wishes some information on taking mortar stairs from the floor. Mack had better try a coarse grade of steel wool—can be bought at any up-to-date hardware store. This is also fine for cleaning dirty moulding or window sash to cut filler or varnish, or clean finger marks from wood finish.

J. B. ZEIGLER.



The Scott Capstan

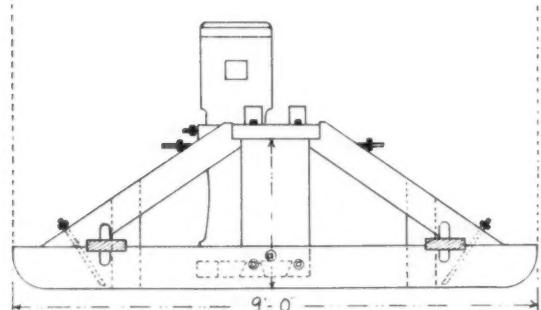
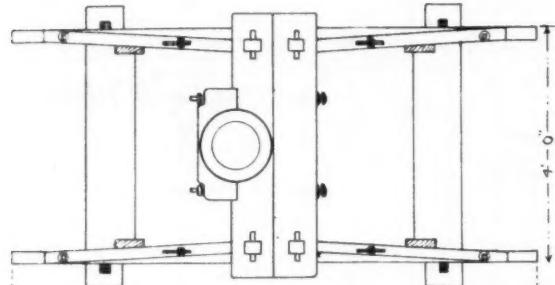
To the Editor:

My position was something like Mr. Oliver B. Exstrom's—I was in need of a mover's capstan, but did not follow the business regular enough to justify the expense of a ready-made all-steel capstan, so I wished to make one of wood. I turned to the AMERICAN CARPENTER AND BUILDER, as usual, to help me out, but did not see it in the numbers at hand, so built the capstan like sketch, which is intended for heavy work.

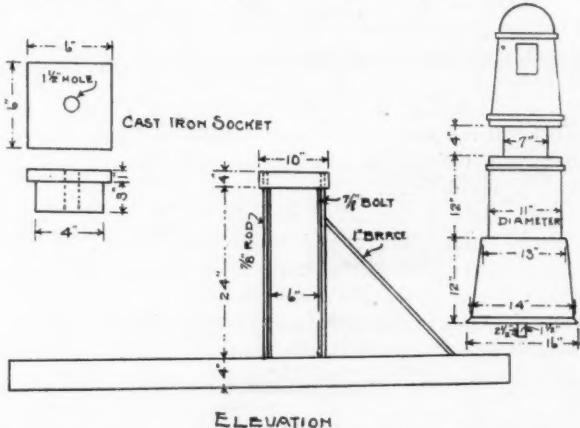
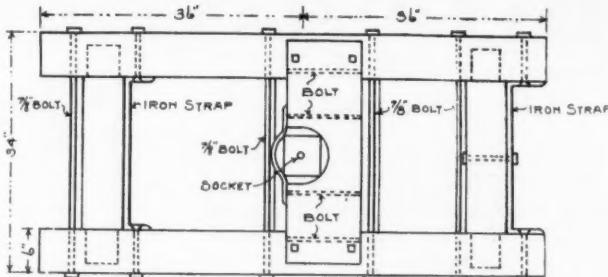
It is built of $2\frac{1}{2}$ inch oak lumber, in sections which can be put together in a few minutes, and held firmly in place by driving in the pins or wedges, setting up the rods and hauled along on its own runners while on the job, then taken apart for convenience of handling and storing away.

To make the spool, take a gum log 4 ft. 6 inches long, large enough to make 15 inches when finished. Bore a hole in each end and drive $1\frac{1}{8}$ -inch iron bolt in, letting it stick out about 6 inches; slip on a pair of wooden boses; then clamp them to two trussel benches, allowing the log to turn over easy, like in a lathe. With an ax and adz, take off the rough, and round it up some; then put the engine belt right around the log and start it whirling over fast, and with a big, heavy chisel, turn it. Move the belt after finishing a place and soon the whole spool is turned down to the required shape. The rope winding part of spool can be made as low down as is wanted. In districts where a large log is hard to get, the spool can be made with a square head; build the lever to fit over.

FORREST SCOTT,
Contractor and Builder.



Details of Mover's Capstan as Used by Contractor Forrest Scott.



Details of Mover's Capstan Used by J. W. Lowe & Son.

The Lowe Capstan

To the Editor:

Replying to Mr. Exstrom's request in November issue of AMERICAN CARPENTER AND BUILDER for information about Building Movers' Capstans, am sending sketch of one I use. The capstan can be made of maple or oak. For the post, use oak. This post has a cast iron drum on the inside, of which are three ribs. Slots are cut in the post for the ribs. This keeps drum from getting loose and is better than fastening drum with pins. This capstan can be made with hinged top, if desired, and still be rigid.

Regarding rope used, will say that in the east we use Manila rope, $1\frac{1}{2}$ inches in diameter. Average length of rope is 600 ft. This is long enough for all general work. Wish to say one thing to Mr. Exstrom and to others; do not let the size of the building wholly determine what rope, or timbers are to be used. This must be governed by weight and conditions under which you are working. A small building being moved either up hill or down needs a much stronger rope than if it were on a level.

Hope Mr. Exstrom will be able to secure enough information from your valued paper, so he can continue in his engineering work as that is what Building Moving is today. I am,

A. L. LOWE,

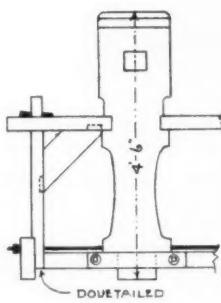
With J. W. Lowe & Son, Building Movers.



To Clean and Preserve Marble and Other Stone

To the Editor: McCook, Neb.

In the December issue of the AMERICAN CARPENTER AND BUILDER, Mr. John Peck, of St. Peter, Minn., asks for some information in regard to cleaning a marble base which has become discolored by allowing some of the putty coat to fall upon it. If Mr. Peck will learn to protect all stone work that he may be working over he will find that his troubles will be few. Several methods have been devised in the past



few years for cleaning marble and other stone.

I have found that ordinary soda lye, five per cent solution, is one of the best to use on marble. The lye is applied with a stiff brush, and after being washed away, the stone is scrubbed with sand and water if necessary.

The most satisfactory method for the preservation of stones, except granite, that is exposed to the elements, is one that involves the use of a cement filler and spar varnish.

One coat of waterproof cement filler—a thin varnish made by paint manufacturers—and two coats of spar varnish, applied evenly.

PERCY M. BELL,

Architect and Engineer.



House in Course of Construction

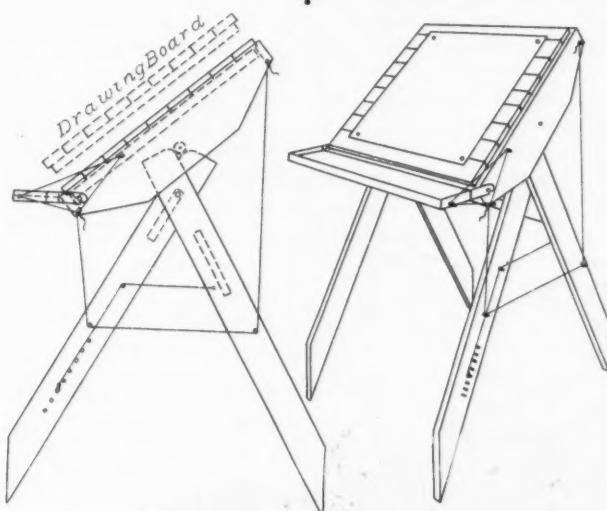
To the Editor:

Frankenmuth, Mich.

We are sending you a photo of a house which we built this fall in the Village of Frankenmuth. This house is 26 by 42 feet with 8 ft. porch. The photo shows the job four days after starting.

REINDEL BROS.,

Contractors and Builders.



Handy Drawing Table

To the Editor:

Stuttgart, Ark.

I am sending a drawing of an adjustable drawing table which I am using. The sketch explains itself.

RICH. SCHEIDERER.

To the Editor:

Salida, Cal.

I would like to ask a question for you or some brother reader to answer. What can be done for creaky floors. The house I have reference to was built one year ago. The

floors are of O. P. vertical grain No. 2, well seasoned. Floor joists are 2/6 O. P. 7 feet 6 inch span and on 20-inch centers. The floor is nailed at every bearing except the joints.

W. H. MOHLER & SON,
Building Contractors.



Good Ideas (with a Dash of Lemon) from a Contractor's Wife

To the Editor:

Sullivan, Ill.

Your magazine is looked for and read by me every month. I do not see any letters written by my sex.* I will venture just the same.

First, will say that had the architects that drew and prepared the plans and specifications for the numerous homes in your pretty and useful book, consulted a sensible house-keeper, they would have been given more pointers about a home than any college or corresponding school would be able to teach; and also by the time she was through they could (if they would) acknowledge she knew more than they about saving the housewife many needless steps in a day—not saying years.

Second. How long has the low sink caused many a back ache? How many dollars rolled into the family doctor's pocket on its account? Yet there will be many battles yet to be fought between the housewife and the hard-hearted plumber! Now here is where the architect can try and make amends by specifying high sinks.

Third. Why do the builders of refrigerators place them on so low a base? Why not a foot or fourteen inches off the floor on legs? Just imagine the builder of the refrigerator getting down on his knees twice a day when the mercury is one hundred in the shade!—his face nearly touching the floor and his knees wet from the splashing of the over full shallow pan of waste ice water. Do you think his temper would be very sweet? Why can't he do a good turn to woman and build the refrigerator high, instead of so low? It would save so much bending when placing in or taking out foods. It would be easier to keep clean inside, outside, and under the refrigerator. The spider webs could be brushed away because they would be seen. In scrubbing and mopping the floor all would be better and healthier. I think that the health committee never thought of that? Did I hear you say that there should be a pipe to drain away the waste water, Mr. Editor?†

Well sir, I will answer you with an answer you know as well as I do. You well know that if there should be a drain pipe for the waste water to be carried away it would be in a very unhandy place or in the hottest part of the house. So I got you there! That shows if the refrigerator is built on legs a pail could be placed under it instead of a shallow pan, and seen when full.*

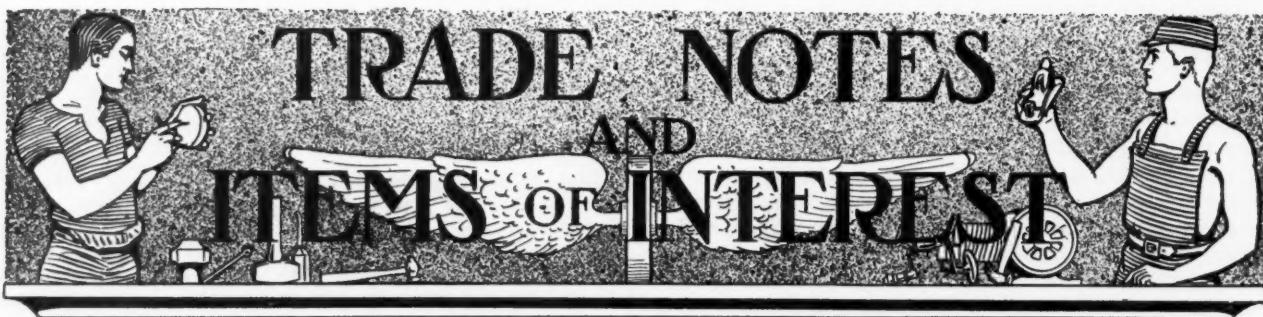
Fourth. If this letter is fortunate enough to be placed in among the wise carpenters letters in your magazine, may every reader ask his wife, mother, or sweetheart what she thinks of it. She would then and there give you some pointers, which—if you would write and tell to the Editor of the AMERICAN CARPENTER AND BUILDER—would make such a flood of good advices and so many prize letters that the Editor would have to call a halt; he would not be able to print them all, and yet all would be too good to throw into the waste basket. But this will not happen, as this letter will not be found in print, simply because it is written by a woman.**

May the year of 1915 be a kind and prosperous year to you and your staff. I am very truly yours,

MRS. JOHN F. MILLER.

*Woman.—Ed.
†No. It will clog. We slop the ice pan every morning ourselves.

—Ed.
†No, we were with you all the time.—Ed.
*Good idea.—Ed.
**Madam, you wrong us; we are the original Illinois suffragette.
—Ed.



Through this department the Editors aim to keep builders, contractors, carpenters and architects in touch with what their friends, the manufacturers, are doing for them in new or improved tools and machinery, methods and materials—pertaining to building. Items for these columns must have real news value; they are offered here as interesting information for our readers; they are not advertising. No matter will be printed here simply because some advertiser wishes it. Likewise, no matter will be excluded simply because the article described is not advertised in this magazine. Suggestions for the betterment of this department are requested of our readers.

Exhibition of Greatest Value to Contractors and Builders

We reproduce below a letter recently received from a prominent Michigan contractor. We are glad to pass it along to all our readers, with our hearty and full indorsement.

AMERICAN CARPENTER AND BUILDER,
Chicago, Illinois:

Gentlemen:

I have been a reader of your valuable publication for a good many years and have obtained many valuable new ideas from it. You know it is these new ideas that cause the builders who use them to increase their bank balances. It seems to me that too many builders are trying to do business along lines that are hopelessly out of date. They are in a rut and as the only difference between a rut and the grave is in its length and width, they are dead in a business way. Why, I can obtain more ideas in a three or four days' stay at the annual Cement Show in Chicago than I can use in a year. These Cement Shows are to me a vital necessity. It was a Cement Show in Chicago about five years ago that got me out of the rut that I had been traveling in and put me on the highroad to prosperity. For the life of me I can't see why any builder that lives within a thousand miles of Chicago doesn't attend every one of these expositions.

It might interest you to know that five years ago I was a carpenter contractor, making just about enough each year to keep the wolf from the door. At that he wasn't so very far away from the door, either: entirely too close for comfort. Well, I had heard quite a lot about these cement shows and I thought that I would run down to Chicago, and see what they had to offer. I was never so surprised in all my life. The possibilities along cement lines appealed to me so strongly that I started looking around as soon as I got home. Some of my friends discouraged me, or rather tried to, but I just wouldn't be discouraged and I am now a full-fledged general contractor.

Each year I look eagerly forward to the time of the cement shows and I am among the first to enter and the last to leave each day. I can get more information in one day there than anywhere else in the world. I talk over with the manufacturers my machinery problems and the advice they offer means greater efficiency for my machinery. If I contemplate purchasing any further equipment at the cement show, I can see the product of practically all the manufacturers side by side

in actual operation. This means a whole lot to the average builder who has usually a plentiful supply of good horse sense and takes a pleasure in getting the very best value for his money.

I expect to attend the Chicago Cement Show again this year and at that time will be glad to call upon you in your new home, which as yet I have not had the pleasure of seeing.

With kindest personal regards, I am,
Very truly yours,

(Name and address withheld by request, but may be had personally on application.—EDITOR.)



"Impervite" Method of Waterproofing

By Ralph Shainwald, Jr., A. M.

Manager, Waterproofing Dept., Standard Paint Co., New York City.

The modern "Impervite" method of waterproofing cellars, pits, tunnels, etc., is simple and reliable. It consists in plastering a $\frac{3}{4}$ -in. layer of Impervite cement mortar to the leaky walls. This method, it is said, has been used to repair scores of buildings after failure of pitch and felt.

To come to the rescue when other waterproofing methods fail seems to be the habit of "Impervite." A typical case was at the Nepperhan Valley Pumping Station, Yonkers, N. Y. Here the pump pit, 30 feet diameter by 30 feet deep, was built of heavy concrete, waterproofed in the center of the 36-inch walls by nine plies of asphalt felt well bedded in pitch. The bottom of pit was subject to 25 feet head of water, and the waterproofing failed in spite of the many layers of felt used and the greatest care on the part of the contractor. To repair the membrane was impossible, but a facing of Impervite mortar on the inside did the trick.



PIERCE-ARROW BUILDING, BUFFALO, N. Y.
Pump Pit, 28 Ft. Below High-Water Level, Successfully Waterproofed with $\frac{3}{4}$ -In. Facing of "Impervite" Mortar.

Again at the Pierce-Arrow Building, shown in the illustration, the pump-pit, 28 feet below high-water level, was waterproofed with $\frac{3}{4}$ inch of Impervite mortar, after the previous waterproofing method had failed.

The Impervite cement mortar will bond to the inside of leaky walls, even where the tidewater or ground-water is pressing from the outside. This work is done by the Stand-and Paint Company, 100 William Street, New York City, any depth below water-line, under absolute guarantee. Full direction for the application of Impervite, under both mild and severe conditions, are contained in the company's copyrighted book of instructions—No. 62.

The greatest advantages of Impervite waterproofing arise from the fact that a thin layer of Impervite mortar will waterproof against the highest pressure, and that this will bond to the inside of a wall so firmly that it cannot be pushed off. The whole strength of the main wall and the main floor foundation is utilized by the waterproofing. This means that there is no need of double walls or double floors to keep the waterproofing in place.



"Safety First" in Roofing

The progress of the fight against fire during the past few months has been truly remarkable. The slogan of the participants in this fight, "Safety First," is seen everywhere, and since the Salem conflagration it is more noticeable than ever. Non-fireproof roofings especially are being condemned, some persons tearing off comparatively new wooden shingle roofs and applying fireproof materials.

Notable among the many instances which come to our notice in this connection is that of the Asheville school, Asheville, N. C. This school is located high up in the mountains, far removed from any adequate fire apparatus. A few months ago a fire occurred in one of the smaller buildings and, although very little harm was done, it caused the owners to realize their danger. The wooden shingles on their buildings were comparatively good, but the owners had them torn off and in their place was applied about 40,000 square feet of asbestos "Century" shingles, which is an asbestos cement material, absolutely fireproof.

Another case is that of the Coliseum at Fort Worth, Tex. The state of Texas recently passed a rather strict law concerning fireproof roofings; and the Coliseum, which has a roof area of at least 30,000 square feet, is now covered with these same asbestos "Century" shingles.

The factors for this material, the Keasbey & Mattison Co., of Ambler, Pa., say that, notwithstanding the peculiar condition of business for the past several months, the sales of asbestos "Century" shingles have most rapidly increased.



Packard Mixers Direct from Factory

Another big concrete mixer concern has located at Keokuk, Iowa, and is making use of the cheap hydro-electric power from the big Mississippi river dam to run their factory. This is the Contractors' Machinery Co., and they are putting out the "Packard" line of hand and power mixers. They have a good supply on hand of these machines—insuring prompt shipments—and want to deal direct with contractors, shipping right from the factory. They claim this will mean a saving of from \$50.00 to \$200.00 on concreting machinery.

The 1915 type Packard is a high grade portable mixer of steel construction. It is mounted on a 4-inch steel channel frame with $1\frac{1}{2}$ -inch steel axles. The body of the drum is No. 12 steel boiler plate. The hopper buckets are the same. The housing around the engine is all steel and can be locked up.

The Packard mixer discharges directly into wheelbarrows or into forms or chutes. The capacity is 5 cu. ft. per batch.

Daily capacity up to 65 yds.

A hand power mixer at a moderate price is also offered. Its capacity with one man turning the crank is $2\frac{1}{2}$ ft. per batch. With two men turning, $4\frac{1}{2}$ ft. per batch. Two turns of the drum give a thoroughly dry mix—three turns of the drum a thoroughly wet mix. This hand mixing machine gives a better mix in one minute than five minutes mixing with shovel.

This hand power mixer is also arranged so that it can be turned by 2 H.P. engine belted to 16 in. pulley. All machines are fully guaranteed for 1 year. Write the Contractors' Machinery Co., Keokuk, Iowa, for full particulars.



"Opportunity Knocks But Once"

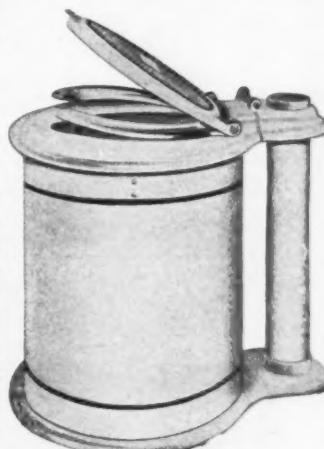
In many thousand localities which have not sewerage the people are looking for a substitute for the abominable outdoor privy; for something which, while it eliminates the dangers and vileness of this relic of a barbaric age, will give them the comfort and convenience of the modern water closet. The chemical closet fills the bill and is destined to be used in the homes of very many of the people in these localities in the near future. This means a fertile field for the salesman, and a rich harvest awaits those who get in on the ground floor.

The carpenter and builder in the smaller towns is in the best possible position to take the cream of this business, because it is frequently up to him to specify or advise as to the kind of closet which shall be used in the home. He can sell the house owner a chemical closet for less than it would cost to build an ordinary outdoor closet, make a better profit thereby, and give the greatest possible satisfaction to his client. This is the time of the year when building operations are, necessarily, light, and the carpenter and builder will have ample time to devote to the work under consideration. A little later he will be planning for the building operations of the next season, and will then have opportunity to pave the way for the sale of many of these closets in the future, thus making it an all-the-year-round money-making proposition. It is understood, of course, that he will want to handle a closet which is scientifically correct, sanitary, and moderate in price; and elsewhere in this issue the Hygienic Promotion Company, of 279 John R. Street, Detroit, Mich., are featuring their Hypco aseptic closet which, they claim, embodies these three essentials, and more. They are offering a very attractive proposition to those who handle their closet.



Breese Bros. Co. Offer Sheet Metal Goods

For more than fifteen years the Breese Bros. Company, Cincinnati, Ohio, have manufactured and erected exterior sheet metal work and roofing for leading contractors throughout the Middle West. Their experience covered all classes of buildings, such as office buildings, railroads, municipal, factory buildings, warehouses, churches, theatres, etc. These many years of practical experience have given them a complete knowledge of the wants and needs of the contractor and builder and a thorough understanding of the advantages of co-operation between the contractor and builder and the manufacturer.



Hygienic Chemical Closet.

When this company increased its manufacturing facilities and desired to broaden its scope of operations the members of the firm, knowing the advantages of co-operating with its clients, instituted a service department which is equipped to successfully handle and take care of all the problems pertaining to sheet metal work and roofing, which their clients desire to submit to them.

This firm specialize in the manufacture of skylights, cornices, ventilators, galvanized shingles and particularly specialize in getting out for the contractor and builder, the exterior sheet metal work for any job and sending it complete, ready to erect, cornices that fit, skylights that do not leak, marquise that are ornamental; in fact, any work pertaining to the sheet metal end will have prompt attention if you will send them a postal of your plans and tell them what you want, and estimates and full information will be cheerfully furnished. Catalog sent on request.



Stanley Wrought Steel Garage Door Set

The Stanley Works, New Britain, Conn., offer a complete set of garage door hardware, packed one set in a box, total weight 20 lbs. This set includes all hardware built for a set of double garage doors as illustrated. There are three pairs of 10-inch extra heavy T hinges, one 6-inch chain bolt with three staples, one 6-inch foot bolt, including floor plate, one size 4 thumb latch and one size 4 door handle. Necessary screws for all these are included. Everything is finished in dull black japan, giving the hardware a neat, dignified appearance.



Well Equipped with Stanley Wrought Steel Hardware.

All carpenters and builders are more or less interested in garage work. They will find this Stanley Wrought Steel Garage Hardware entirely satisfactory. The company will send illustrated circular containing full specifications on request.



Birch Coming Into Its Own

Birch should never have been substituted for mahogany or cherry. It should have stood on its own merit from the first. It is not a second-place wood, not an apology for or a substitute for anything. While it may be a compliment to birch that it has passed as mahogany for a hundred years, the time for compliments of that kind is now over, and the day is not distant when no one will wish to conceal real

birch behind the false claim that it is a tropical wood. Without detracting one iota from the genuine worth of mahogany, it can be stated that birch possesses certain qualities which are superior to mahogany. It is stronger. It stands strains which would snap the tropical wood. It cannot be truthfully asserted that in beauty of grain when properly finished birch goes ahead of mahogany, because it does not—no wood does. But in combining strength and beauty, it ranks above mahogany. It takes finishes which no mahogany has ever yet received.

At the recent furniture show in Chicago the display of birch was instructive. When employed as an imitation of mahogany it was given the load to carry. If it was a bedstead, the rails were birch, because the strains fell there; if a chair, the arms and other parts were of the American wood, where strength as well as beauty were demanded; if a hatrack or coat tree of slender central spindle, more than likely the strain fell on a birch piece. That rule was general, though it was not universal.

It is not necessary to claim for birch that it is superior as a furniture and finish wood to all others in America. There are other extremely high-grade cabinet woods in this country, and all that need be claimed for birch is that it ranks with the best of them. It is strong, hard, stiff, takes fine polish, responds remarkably well to the application of stains and fillers, and if a figured wood is wanted, selected birch supplies it. All of the qualities of a superb cabinet material are here. It is no experiment. It has held its place and gained ground from the first, and it has reached a point where it is able to stand on its own merits and against all comers, either domestic or foreign. This claim extends to lower as well as to the best grades of highly colored and finely figured stock. Birch fills plebian as well as aristocratic places; it is the camp stool as well as the rocker; the bed slat as well as the carved legs of the grand piano. It is fit for nearly every part and class of woodwork. It detracts nothing from its long and honorable reputation to know that excavations have been shown that the terrible war chariots of the Assyrians, with scythe blades on the hubs and spears on the ends of the poles, were made of birch—rims, hubs, spokes, axles, poles and body. Then why hide the identity of this splendid wood under aliases and disguises?—*Hardwood Record*, Sept. 25, 1914.



Concrete Brick Machines

This is the age of concrete, and almost daily something new is brought out that will increase the facilities with which this material may be used.

In any community where stone is not found, or difficult to obtain, concrete building bricks and blocks are rapidly crowding other materials out of use.

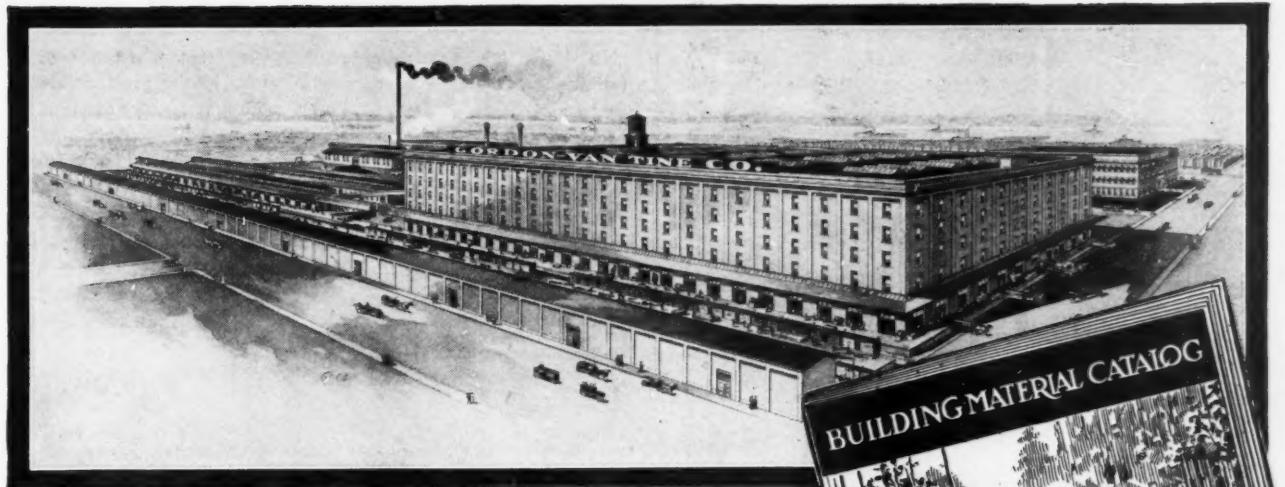
The fact that they are easy to make and can be rapidly turned out with the modern machines, in any place, makes this business most attractive.

One of the most successful firms along this line is the Helm Brick Machine Co., 171 Mitchell St., Cadillac, Mich., who make machines of almost any size and capacity.

The Helm presses make pressed cement brick at a cost that will compete with the cheapest clay brick, and that will compete in quality with the finest brick made.

The smaller machines work by hand power, are automatic and rapid; and the owner of one of these machines in almost any community can be independent, as the demand for cement made brick, building blocks, tile, and other items of this character, is rapidly growing.

The Helm Brick Machine Co. recently effected a consolidation with the Queen City Brick Machine Co., of Traverse City. The factory and general offices of the new company are located at Cadillac, Mich.



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No matter where you live, we guarantee safe and prompt delivery. We have customers everywhere. Our plant is the largest in the world. We sell everywhere on earth. Our own architectural staff will work up your plans from your own rough sketches. The cost is but a fraction of what you would

have to pay locally. For every nickle in freight, we will save you dollars on the bill. I want to tell you more about this when I write you.

5000 Building Bargain Get Catalog FREE Use Coupon

Here are a few pages from our 132 page color-illustrated catalog of 5,000 Extraordinary Bargains in Building Material. Lumber at a saving of \$100 to \$300 a car. Millwork in special designs for immediate shipment. No waits. Roofing, Builders' Hardware, Paints, Wall Board, Everything! Crammed from cover to cover with money-savers. A veritable Builders' Encyclopedia. The book that creates low prices. Free on request. I want to send it to you. Will you use the coupon? Or a post card? I have started 10,000 others to greater profits by sending it to them. Let me start you. Today! Now!

WM. RIORDON,
Mgr. Contractors' Dept.



GORDON-VAN TINE CO., 745 Federal St., DAVENPORT, IOWA.

Gentlemen—Please send the books checked below.

Millwork **Plan Book**

Roofing Circular & Samples **Lumber**

Name.....

Address.....

Occupation.....

In sending for Plan Book, enclose 10 cents for postage and mailing. You will receive the books by return mail.

Gordon-Van Tine Company
745 FEDERAL STREET,
DAVENPORT, IOWA



"I made my small house attractive at small cost by using Bridgeport Standard Wood Finishing Products."

ANY WOMAN who finds a joy in an attractive, well-ordered home will be delighted with the beautiful effects that can be obtained with

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THE BRIDGEPORT CO.
WOOD FINISHING
BOX 105 NEW MILFORD, CONN., U.S.A.
NEW YORK CHICAGO BOSTON

An Impersonal Chum

No doubt you remember reading—at least when a boy—of hunters and of conquerors who spoke in the most endearing terms of their "trusty" rifle. You know such men are not given to slushy sentimentality, but you can readily understand their feelings about this bit of inanimate "cold steel." It has saved their lives on many occasions.

They look at it with the same gratitude with which we would look on any man who had saved us from sudden death.

With a feeling akin to this, the good mechanic looks at his tools. While they do not save his life, they do something almost as important for him, they help him make a good living.

That is why a good mechanic is as particular about choosing his tools as he is about selecting a wife.

That is also the reason why Red Devil tools have earned the nickname "the mechanic's pet" the world over.

These tools are made by Smith & Hemenway, on the somewhat new but commonsense principle that tools are not primarily made to be sold, but to be used; that each particular tool should be designed to serve a particular purpose in the most efficient and "workman-like" manner.

In other words, what has made Red Devil Tools so successful is the fact that the manufacturers do not consider them merely as an "article of commerce," but as an instrument that must do its share to assure the American workman the supremacy of reputation that has made him famous as the most skilled mechanic in the world.

Smith & Hemenway Co., 156 Chambers St., New York, publish a "family album" of about a thousand Red Devil tools, and will be glad to send it to anyone who wants it, free.



Tools for Cement Workers and Builders

There are a good many tools of a special nature that are not carried by hardware stores generally; but which the cement worker, mason, plasterer or carpenter finds very useful to him. They save his time and help him to do his work to better advantage.

Even where such special tools are carried, the price asked is usually way too high.

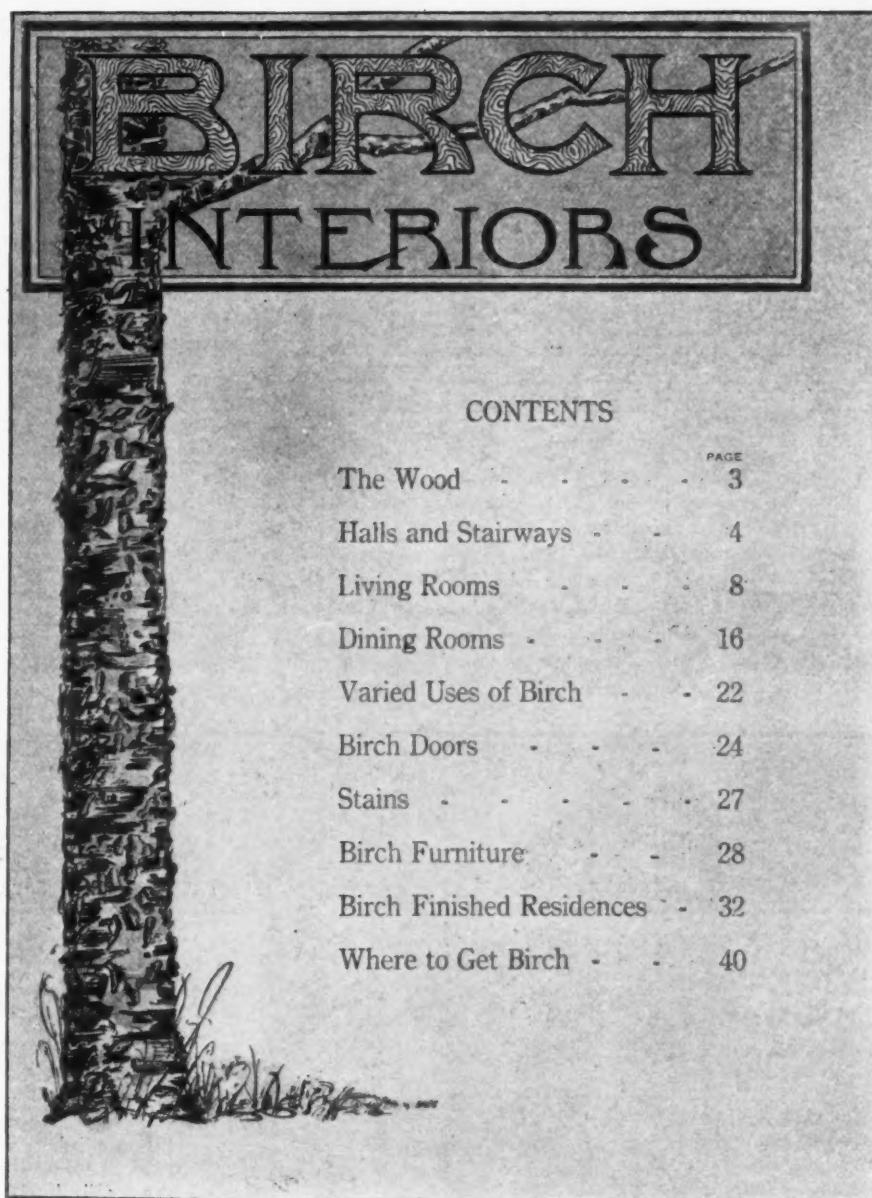
Our readers who have had trouble in securing special tools they need will be glad to know of the "Catalog and Handy Book for Plasterers, Bricklayers, Tile Layers, Stone Masons, Cement Workers, Stone Cutters, and Terra Cotta and Marble Setters" issued by the H. Goldblatt Tool Co., 212 E. 15th St., Kansas City, Mo.

In this catalog is listed a very complete line of special and useful tools. The collection contains a number of new tools never before offered the building trades. These have been developed with the idea of efficiency in doing the work. The catalog is unique in that every tool is clearly illustrated, and in connection with each the delivered price is quoted. The H. Goldblatt Tool Company prepay transportation charges. This means that they guarantee to deliver their tools to your door in any part of the United States or Canada at their regular low price, as shown in this catalog. Tools are shipped the same day order is received, together with a card acknowledging receipt of order and advising just how the tools are being shipped.

The business of the H. Goldblatt Tool Company has been built up exclusively on the basis of satisfaction to customers. Of those heretofore unacquainted with them they only ask a trial order. They say, "We can and will make a customer out of you if given a chance."

Altogether this is a booklet of 50 pages of handy pocket size. We urge all of our readers to send for a copy. Very likely there is some tool listed in it you have been wanting.

The New Birch Book



THE new Birch Book, the cover of which is pictured above, is now ready for distribution. It is 9x12 inches in size, well bound in heavy gray paper and contains 40 beautiful pages illustrating modern halls, stairways, living rooms, dining rooms, fire-places, and floor plans; shows styles of interior finish and color schemes that every architect and builder will appreciate.

Write today for Birch Book "C" and a set of Stained Birch Samples. Sent Postpaid.

They will help you get business.

The Northern Hemlock & Hardwood Manufacturers Association

Dept. C **WAUSAU, WISCONSIN**

A Prosperous New Years Greeting

The Fox Supply Company wish to convey sincere wishes for a Happy and Prosperous New Year to their many friends among the carpenters and contractors of America.

Since the Fox floor scraper was placed on the market ten years ago sales have increased year by year until now they are recognized as one of the largest exclusive manufacturers of floor scrapers and floor scraper blades in the world. This was accomplished by being fortunate to select a class of craftsmen who recognize good tools and cater to the concerns that can and will furnish them.

When the Fox floor scraper was placed on the market this was their standard. They have maintained this ever since and will continue to do so. The Fox floor scraper is made in five sizes to meet the requirements of the men on the large as well as the man on the small jobs.

All their scraper knives are manufactured at their own plant from a special grade of steel, tempered by the most modern process.

A postal card addressed to the Fox Supply Company, Department A, Brooklyn, Wis., will bring their latest catalog.



Clock Movements for Home Shop Workers

No other "project," as the manual training teachers say, is quite so popular with amateur woodworkers and home workshop men as the grandfather's clock. A fine hall clock, tall and dignified, an interesting piece of furniture, can be easily made; and the expense is small, considering the value of the piece when it is finished. Pretty nearly everyone who has ever dabbled with tools in the home workshop has either built a grandfather's clock or is thinking about building one. It is a popular piece of furniture, makes an elegant gift, and if one is putting in his spare time at work he hopes to make



Best Fun in the World—Building a Grandfather's Clock.

supplying first-class works for hand-made clock cases. They can supply chiming clocks, cuckoo clocks, musical clocks, mission clocks, etc. As they are both manufacturers and importers of clock movements, they can furnish a big selection. Just at this time they are quoting some extra low prices. They have some very interesting and instructive circulars showing attractive clock designs and giving full information about the movements they have to offer.

In order to further assist amateur clock builders the American Chime Clock Company are preparing blue prints, giving full details of construction, and also detailed list of stock required. This is a service that many of our readers will appreciate. We suggest that all interested write at once for their circulars and for full particulars concerning blue prints.

CORNELL BOARD

FROM LOG TO BOARD IN ONE PLANT

—is Best for Your Customers

Cornell board is guaranteed pure wood fibre, no unsanitary waste paper or cheap filler being used.

—it is **made** right and **stays** right. Will not crack, split, warp or peel in any climate or under any weather conditions.

—it retards heat, cold and sound, making buildings cool in summer and warm in winter.

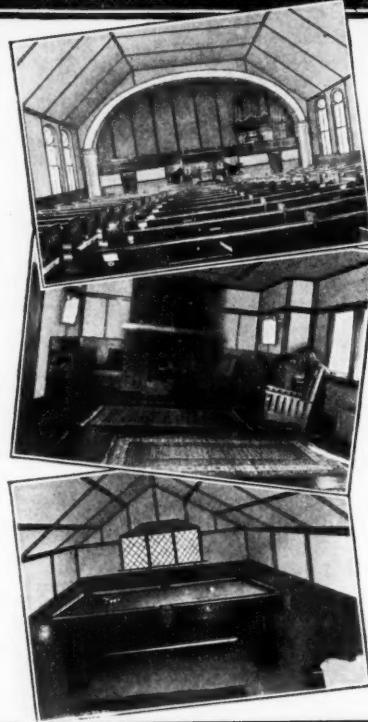
—careful processing protects it against dampness; heavy sizing makes the painting cost lower than for any other wall board.

—it can be easily applied, and without the muss and litter inseparable from plastering.

—it is sanitary, vermin proof, and is the most advanced wall construction.

—it costs less than lath and plaster, and less than any other wood fibre board on the market.

CORNELL
WOOD PRODUCTS CO.
125 W. Madison Street
CHICAGO



—is Most Profitable for YOU

Cornell Board will give the greatest possible satisfaction to your customers.

—it can be used for the walls, ceilings and partitions in all buildings.

—it is applied by carpenters, eliminating expensive sub-contracting.

—it saws like lumber, and is applied with hammer and nails.

—it is the most convenient material for partitions, show window backgrounds and general repair work.

—it is stocked 32 and 48 in. widths, and in even foot lengths from 6 to 16 feet.

—the enormous capacity (300,000 sq. ft. daily) of our \$3,500,000 mill, and our widely extended distributing system, enables us to quote low prices, low freight rates, and make quick deliveries.

—Write us today for samples, prices and complete information.

Warehouses at all Important Shipping Points

Dealers in Every City in the U. S.

“This Shingle Put Me on the Map”

The first NEPONSET Shingles put on, down my way, were put on by Yours Truly.

Naturally I got the next job---and the next job---and the next job. Any other carpenter could have done it just as well but the NEPONSET shingled roofs were advertising *me* all the time



and so one job just followed the other. I have covered 15 roofs and still going strong. I use

Neponset Shingles

because I *know* they are durable and fire resisting and *any one* can see they are architecturally perfect. Don't think they are stamped out of ready roofing. This is not so. They are built up specially ---

heavy butt end and all that.

I'm a NEPONSET Shingle enthusiast.

This shingle put *me* on the map!

BIRD & SON, East Walpole, Mass.

COUPON

COUPON

Name.....

Address.....



A Valuable Book

*Of Full-page Color Schemes
For All Types of Houses*

Will be sent without cost to all contractors and architects.

This is a handsomely bound book, printed in full colors, containing harmonious color schemes, suggestions and paint information.

It will give you an idea of the pure white and beautiful brilliant tints obtained with Carter Pure White Lead.

CARTER THE WHITE WHITE LEAD

Insures a pure white because it is manufactured of purest metallic lead by most modern methods. It is exceptionally fine and will cover more area per gallon, making it the most economical paint to use.

The Paint Information Bureau

We maintain a Paint Information Bureau for Carpenters and Builders, Painters, etc. Tell us your paint troubles and problems. Our experts will answer without cost to you.

"The Carter Times"

Send us your name and address and we'll give you a Free Subscription to "The Carter Times." It is a well illustrated little magazine, dealing with Paint, and each issue contains a valuable fund of information, data, etc.

Carter White Lead Co.

Chicago

CARTER

Invitation to Inspect New Heppes Plant

The last part of May, fire of uncertain origin destroyed several of the factories of the Heppes Company of Fillmore Street, Chicago, manufacturers of the well-known Flex-a-Tile asphalt shingles, Utility wall board and Asphalt paint.

Strenuous measures were adopted by the company to continue their output, in spite of the loss of part of their factories. New machinery was rushed to the grounds and installed out of doors. By working these and the remaining factories constantly, orders were still delivered promptly.

Since the fire, extensive reconstruction work has been constantly under way, until now the company announces the completion of its immense new building. This vast structure is of reinforced concrete throughout and replaces not



Melting Pure Asphalt at a Temperature of 290° Fahrenheit. Scene in Factory of The Heppes Co., Kilbourne Ave. and Fillmore St., Chicago, manufacturers of Flex-a-Tile Asphalt Shingles, Utility Wall Board and Asphalt Paper.

only the factories burned, but all the old construction of wood. It is equipped throughout with every modern facility known to roofing manufacture. Those who have seen it pronounce this plant the finest roofing factory in America. Machinery of tremendous capacity has been installed and insures an immense production, greater in volume than was possible before.

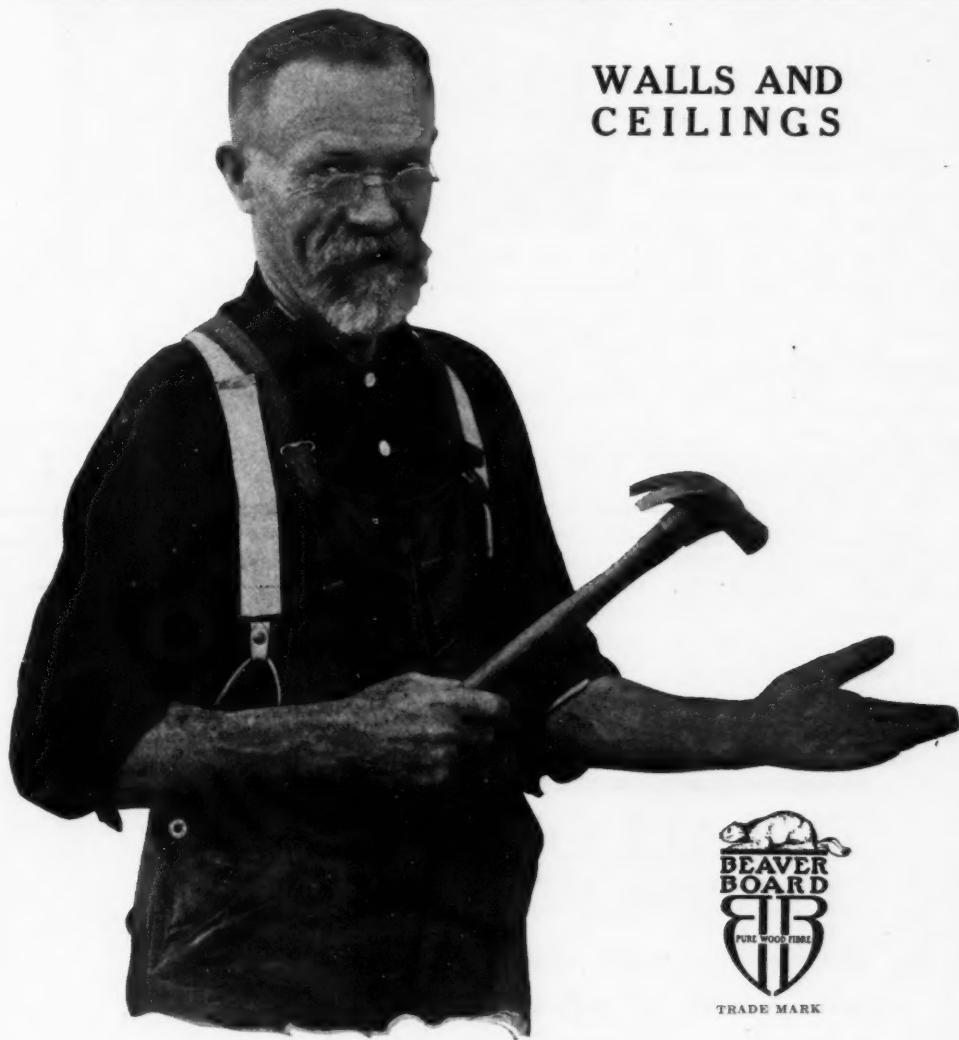
In this new plant no effort has been spared to make it possible to achieve the highest degree of efficiency and economy in production. New manufacturing economies have been made possible and the increase of manufacturing facilities has cut production cost to a minimum. These things mean that Flex-a-Tile asphalt shingles and Utility wall board will be produced of higher quality than ever before. The Heppes Company extend a cordial invitation to anyone interested to visit this extensive plant whenever convenient. Visitors are always shown every possible courtesy.

⊕ "The Lightning Estimator"

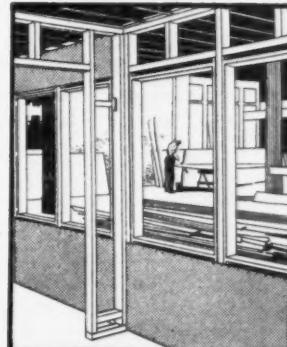
On another page of this issue appears the announcement of the Bradt Publishing Company, 1260 Michigan Avenue, Jackson, Mich., concerning the new seventh edition of their "Lightning Estimator."

This book has nothing to do with atmospheric discharges of electricity, as one might perhaps gather from the title. It gives short cuts and direct methods "quick as lightning"

BEAVER BOARD



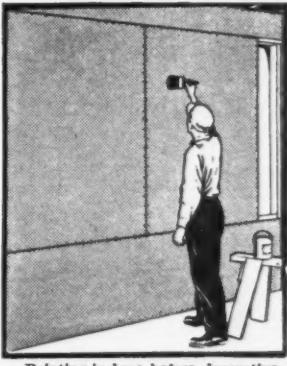
WALLS AND CEILINGS



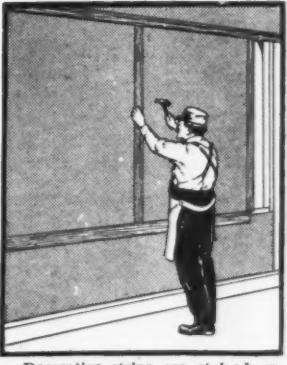
Headers should be placed where needed for nailing top and bottom panels, top of baseboard, etc.



Start at top and nail to intermediate studding, before nailing edges. Use fine wire brads.



Painting is done before decorative strips are nailed over the edge of the panel.



Decorative strips are stained or primed before they are nailed over edges.

There's Real Satisfaction in Jobs Like This

"When Mrs. Thatcher, down here on Pearl Street, suggested that I use BEAVER BOARD for remodeling her living room, I was almost afraid to tackle it. You see, I had never used the stuff and was a little bit leery of how the job would look.

"But she persuaded me to try it and now I'm glad I did. The board was easy to put up, nice to work with, and the room's a beauty. Everybody admires it, and it's been the means of me getting more BEAVER BOARD jobs.

"That's been five years now, and the old lady has never had a cent's worth of repairs. You see, BEAVER BOARD can't crack, and that's more than you can say about plaster when a job settles.

"Take it from me, there's good money in BEAVER BOARD jobs. I'd advise you to write to the company—they'll tell you all about it, without putting you under obligation. Just send 'em your name and address."

The Beaver Board Companies

United States: 215 Beaver Road, Buffalo, N. Y.
Canada: 315 Wall St., Beaverdale, Ottawa.
Great Britain: 4 Southampton Row, London, W. C.
Branches in sixteen cities.

for estimating carpentry construction. Mr. Bradt, the author and publisher, is himself a practical building contractor; and it is said this little book of his contains the best of his own estimating and building experience.

Estimating—that is, the study of costs of doing various kinds of work—is always an important consideration to contractors and builders. It is so easy to go wrong figuring costs in advance, and when the work is actually done you find the balance is on the wrong side of the ledger. A good many contractors keep a record book in which they note down the time required by their men to handle various items of building work. Notations covering cost of building materials and of special building equipment are also entered in the book. This is a very great assistance when it comes to predicting in advance what similar work will cost. In addition to one's own past experience the estimating experience of other contractors is valuable. In this connection the Bradt "Lightning Estimator" is interesting.

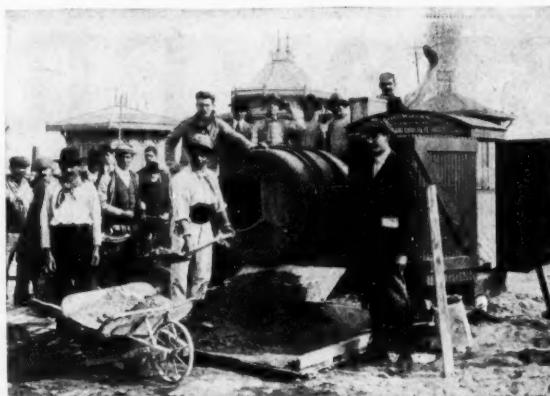


"The Standard" Promotes Sanitation

The inclination or tendency in all building construction today is toward sanitary conditions and permanence.

The milk supply business, dairy farmers, and stock raisers are among the first who appreciate the smooth, hard walls and floors made possible by concrete. The accompanying illustration shows "The Standard" concrete mixer manufactured by the Standard Scale & Supply Company, of Pittsburgh, working on the large pasteurization plant of the Borden Condensed Milk Company, New York.

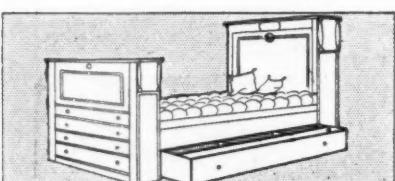
At this time the country is hearing and reading much on the subject of the foot and mouth epidemic. The causes of the disease in several—one of the chief sources—is attributed to the germ infection of the hoof caused by the germ living



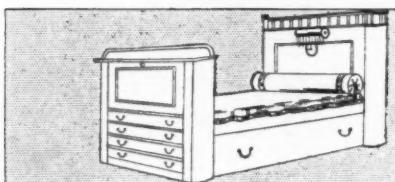
"The Standard" Mixer at Work on Borden Farm.

in the unsanitary conditions of barns, runs, etc., when it once gets there. The prevalence of the disease and the consequent loss to farmers is going to "pave" the way for a volume of work for contractors. Since it has been found that the germ lives in the ground to a depth of 8 to 12 inches, concrete floors will be laid and various other applications and uses of concrete will be made when started.

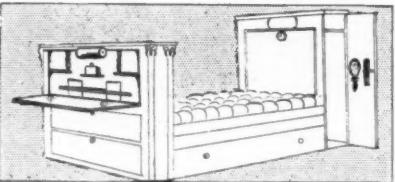
This is the day when a contractor need not wait until business comes to him. Sales methods applied to his line can bring him the work just the same as in any other line. The only recommendation is to be properly equipped in order to go after this class of work. The above concern has a large line of small portable machines known as the "SSS" mixers, which are very adaptable to use in construction of foundation floors, walks, etc. If you are interested in concrete mixers it is advisable to get into communication with them.



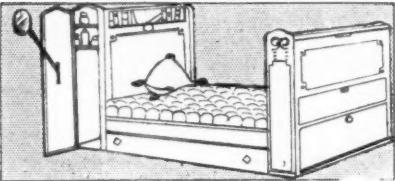
As a Couch. Also note large Divided Drawer



As a Luxurious Bed. Finest Steel Springs



Showing Commodious Desk. Note Desk Light



Shaving Compartment. Adjustable Mirror

THE ALL-ONE CABINET BED

A Real Space Saver

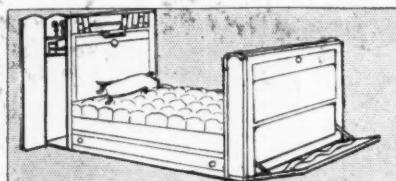
Adds at Least 30% to Your Floor Plans

With one of these Cabinet Beds, a table and chair you can furnish a Library or Bedroom complete. No need for closets with the "ALL-ONE" Bed Cabinet. It can be used as a big couch or instantly transformed into a luxurious bed. These Cabinet Beds will save space wherever used. Occupying less than 25 square feet. They will show a substantial saving in floor space in homes, hotels, clubs, etc.

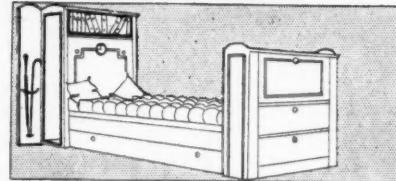
We Want Your Co-operation

and will pay well for it. We want Carpenters and Builders to recommend them to their customers. Figure them in your floor plans, show them where they can save money by their use. Explain to them that they can build a smaller house and get the same amount of floor space by using Cabinet Beds. Get in touch with us. We'll send you full details and Catalogues. It'll be profitable for you.

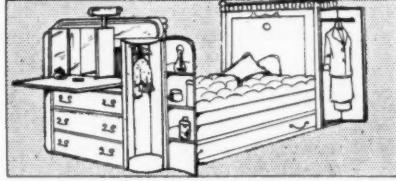
THE CABINET BED CO.
930 Consumers Bldg.
CHICAGO



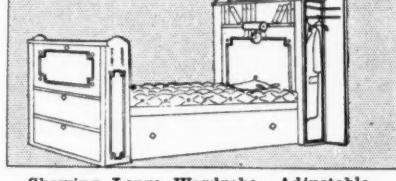
Shoe, Rubber and Slipper Space



Showing Space for Umbrellas. Also Book Case



Dressing Table. Triplane Mirror.
Adjustable Light



Showing Large Wardrobe—Adjustable
Reading Lamp



You bet it's a Happy New Year

—say H-L-F Carpenters and Contractors.

Made double profits on last year's jobs. Besides the regular profit, we made another, just as big, by buying better materials for less money from H-L-F.

H-L-F lumber was so clean and straight that it was a pleasure to use it and the owners were all delighted.

More jobs lined up for spring, than ever before.

Our best New Year's Greeting to you, is

Tie up with H-L-F and doubled profits

Hundreds of carpenters and contractors are looking back over 1914 and rubbing their hands with pleasure. They made more money than ever before in 1914 because they bought their materials of H-L-F.

Make up your mind *right now*, to double *your* profit for 1915. Get out of the rut. Don't be satisfied to pay the dealer his exorbitant prices on lumber—or take the stuff he has on hand, whether the quality is right or not.

Come right to headquarters—buy of H-L-F, the *producers*—put the dealers' profit in *your* pocket—put better lumber into your buildings—make the owner better pleased—make more money and get more jobs.

**Start the New Year right
by getting H-L-F prices NOW**

Send us the bills of materials you're figuring for spring jobs—get our freight-paid price. You'll be amazed at the lowness of our prices for winter and early spring delivery.

Use the coupon

Send for the H-L-F Prize Plan Book—the H-L-F Barn Builder's Guide—ask for some H-L-F Plan Sheets, so we can help you work out house plans if you want us to—ask for the H-L-F House Pricer, which enables you to get the H-L-F price quick, without making up bill of materials—ask also for the H-L-F Silo Folder, and the H-L-F Millwork Catalog.

Fill out and send the coupon today

Hewitt-Lea-Funck Company

Capital \$1,000,000
Not in any trust or combine
508 Crary Building
Seattle - Wash.

Hewitt-Lea-Funck Co.
508 Crary Building, Seattle, Wash.

Gentlemen: Please send me the following:

<input type="checkbox"/> Delivered, freight-paid price on enclosed list of materials (no charges).	<input type="checkbox"/> Plan Sheet (Free).
<input type="checkbox"/> H-L-F House Pricer (Free).	<input type="checkbox"/> Barn Builder's Guide (send 4 cents).
<input type="checkbox"/> Information on H-L-F Stud and Wall Board Construction.	<input type="checkbox"/> Millwork Catalog (Free).
<input type="checkbox"/> Prize Plan Book (send 10 cents).	<input type="checkbox"/> Freight-paid price H-L-F Silo. Diameter _____ ft., Height _____ ft.
<input type="checkbox"/> H-L-F Silo Folder (Free).	
<input type="checkbox"/> Freight-paid price H-L-F Silo. Diameter _____ ft., Height _____ ft.	

Name _____

Street or R. F. D. No. _____

Post Office _____

State _____ Business _____

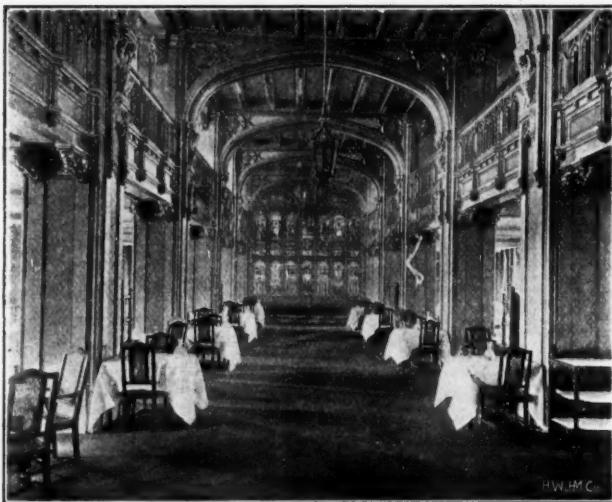
Illumination of the Lawyers' Club

By W. H. Spencer

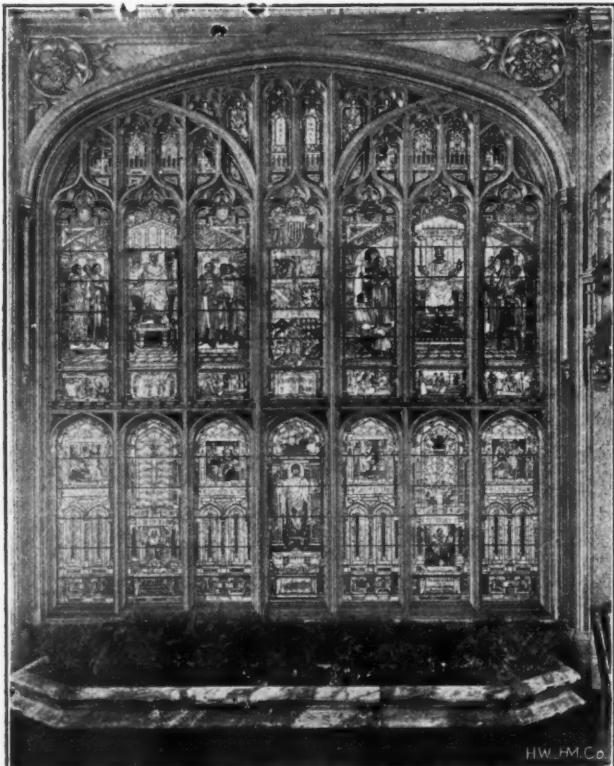
It is interesting to note the great improvement in the art of illumination and how ingeniously beautiful effects are produced with a low consumption of current and cost of maintenance.

This improvement is more noticeably evident in our modern hotels, clubs, restaurants and cafes, where attractive and novel illuminating effects form one of the main features of distinction.

Instead of ordinary equipment of chandeliers and brackets with their monotonous arrangement from parlor to pantry, the main rooms, such as the entrance corridor, lounging room, dining room, banquet room, etc., are given individual consideration in the detail of construction to provide for a scientifically and artistically designed system of illumination



Main Dining-room of Lawyer's Club, New York City.



Large Stained Glass Window at end of Dining Room in Lawyer's Club, New York City.

that will blend with the general scheme of decoration, combining the aesthetic and utilitarian in a harmonious whole.

As a rule the architect hesitates in designing a room in which the illumination is to be a unique or artistic attraction, owing to his lack of confidence (caused no doubt from unfortunate experience) in following the advice of some of the so-called illuminating engineers.

In the illumination of the Lawyers' Club we find several features worthy of special attention. The illustrations shown made from un-retouched photographs, indicate what effects can be produced with properly designed lighting equipment.

The main dining-room is lighted by specially designed silvered, rippled glass lined Frink reflectors, equipped with J-M Linolite tungsten lamps, which are particularly adapted for this kind of work; the light source being practically continuous, all spots and disagreeable shadows are eliminated; and with correctly designed reflectors, an evenly distributed light is obtained over the entire ceiling surface from whence it is diffused throughout the room.

In a dining-room with this system of illumination the physical as well as the artistic, effect can be greatly improved by the use of shaded table lamps.

Special mention should be made of the wonderfully successful illumination of the large stained glass window at the end of the dining-room. This window is twenty feet wide by twenty-two feet high and is designed to emblematically represent the Law Periods from the Mosaic Period to the present time.

It is admirably executed in masterfully chosen colors and beautifully illuminated without any loss in color value and without any glaring light spots. An indirect system is used. The light flux is so evenly distributed over the diffusing background that there is no apparent variation in intensity on any part of the window. The diffusing surface is specially tinted with pigments that absorb most of the yellow and red rays of the lamps, thus producing a remarkably realistic daylight effect.

In the reading room excellent results are obtained by the use of Frink Semi-Indirect Reflecting Chandeliers, which are admirably adapted for this purpose. About eighty per cent of the light is reflected to the ceiling. The reflector is so designed that the light is evenly distributed over the entire ceiling surface without a glaring light spot directly over the fixture. About twenty per cent of the light is diffused through an alabaster glass bowl in the bottom.

The lighting equipment described above was designed and executed by I. P. Frink for whom the H. W. Johns-Manville Company, New York, are sole selling agents.



Reading Room of Lawyer's Club, New York City—Frink Semi-Indirect Reflecting Chandeliers Used.



This man, Rev. Otto Schulze, of Missouri, says: "Sales increasing. Made 7 sales in 8 calls. Sent 4th order yesterday for 50 Tubs." SALES \$1600 TO DATE. Minister of the Gospel, without previous experience, makes this record.

A Folding Bath Tub For Every Home

No home barred—for the rich and poor; for all homes without modern bathing facilities—Here is an absolutely new invention. Nothing else like it. Has taken the entire country by storm. Solves the bathing problem. Gives every home a modern, up-to-date bathroom in any part of the house. No plumbing, no waterworks needed. Take full length baths in any room; up stairs, down stair, bed-room, sick-room, parlor, kitchen, any room in the house. The Robinson Tub folds in small roll, handy as an umbrella. Rivals expensive bathroom. Constructed of the wonderful "Steeline" material. I tell you, it's Great! Remember it is needed in every home. Means modern bathing facilities for all the people. A godsend to humanity.

Guaranteed for 10 Years

(Manufactured by old established concern in business 22 years.)



SEE how it folds in a roll. Takes up less space than an ironing board.

This is the Robinson Folding Bath Tub that is bringing Cleanliness, Health and Happiness to thousands of homes—and thousands of dollars in profits to the lucky men who control exclusive territory. Write for your county TO-DAY.

Sensational Sales Success!—What others are doing YOU can do. Read these records. N. T. Smith, Ohio, \$60 weekly profit. Meyer, Wisc., \$250 first month. Beasley, Nebr., \$35 profit first 4 hours. Newton, Calif., \$60 in 3 days. Mathias, Fla., \$120 in 2 days. Corrigan, N. Y., \$14 in 60 hours. C. H. Tremour, Ind., \$35 profit first 6 hours. W. F. Hincard, New Mexico, \$35 in 2 days. Average men, average sales, average towns. Undeniable Proof of the Big Money to be made by the hustlers everywhere. The Robinson Tub is badly wanted and eagerly bought.

You Make 100% Profit

Demonstration Tub Furnished Workers

Dan Burkholder of Montana, says: "Was out 4½ days this week and sold \$393.50 worth. Sold 3 this afternoon. Enclosed find check for 48 tubs. Ship 50 more next week." Orders \$1072.00 worth in 17 days. WHAT BURKHOLDER IS DOING YOU CAN DO!



Tear Off This Coupon and Mail Now

Yes, sign this coupon right now. Don't send me a single penny. Don't send me any return postage. If you want this money-making job, just sign and mail the coupon. That is all I ask. By sending the coupon you give me the chance to prove every word I have said. Let me prove every statement. Let me tell you the whole en-thusing, ambition-awakening story of a tremendous world-wide success. Will you do this? Of course you will. Sign and mail the coupon NOW!

FREE Information Coupon

H. S. ROBINSON, Pres't
Robinson Cabinet Mfg. Co., 750 Factories Bldg., Toledo, Ohio.

Write me and tell me all about your special plan and how I can make big money acting as your representative. This obligates me in no way.

Name.....

St. and No..... County.....

Town.....

This is Chaney—A Hustler. Sold \$4,000.00 worth of our goods in 5 weeks. No, he's not a genius, not a wizard-worker, not a "miracle-man." Just an everyday American like you and me—but a hustler from his head to his toes. He started just as you will start. What he has done you can do.

Join Robinson's Army of Money-Making Agents—Get Exclusive Sales Rights on the Famous Folding Bath Tub

Yes, join the many agents who are making bigger money than they ever did before. You don't need to quit your regular job right now. Try the business out evenings, Saturday afternoons, whenever you have a little spare time. See that all I tell you is so. Then quit your job. Say good-bye to the time-clock; say good-bye to grinding work and meagre pay. I know after one week of spare time effort, you will be eager to devote all your time to my splendid proposition. You will be enthused, positively amazed at your wonderful success.

A Sure Chance for Ambitious Hustlers

If I could only lay before you all the facts about this wonderful business; if I could only lay before you undeniable proof—stacks of letters and orders on my desk; if I could personally show you enthusiastic letters from Robinson Representatives—Hesitate! Why, man, you wouldn't hesitate for the thousandth part of a second. You would drop everything, your job, your other business like a "hot potato" and say "Robinson, I'm with you." If you really want to get into a big money-making business, get into communication with me at once.

WRITE TO-DAY Send No Money Just Sign the Coupon

H. S. Robinson, Pres't, The Robinson Cabinet Mfg. Co.
750 Factories Bldg. Toledo, Ohio



CERESIT enables you to fulfill the above claim, and add to your reputation as a contractor whose work is superior.

It is a plastic paste, which readily dissolves in the water used for tempering the cement plaster or concrete mixture.

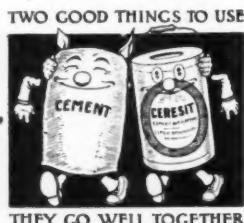
By its use concrete and stucco are made waterproof.

NEW CONDITIONS MAKE NEW DEMANDS

Concrete and stucco work are gaining in favor with builders every year. You, as a contractor, must keep up with the procession. You must not only know how to use concrete but also how to make it waterproof. People are demanding dry basements. Ceresit solves the problem.

TRY IT THIS WINTER

With Ceresit you can waterproof new basements and you can also waterproof old ones. There are wet, practically useless basements in your locality. With a few cans of Ceresit, some cement and sand, you can do some profitable work in this line during the winter months.



*The "Book
of
Evidence"
Will Answer
All Your
Questions*

*Write for
It
Today*

Ceresit Waterproofing Co.
910 Westminster Bldg., CHICAGO
MADE IN U. S. A.]

Why I Became a Salesman

By H. C. Jackson

I had always wanted to be a salesman. Big profits had the most to do with my ambitions, I guess. For ever since I had been old enough to listen I had been hearing the statement that the big money in every business was on the selling end.

But some way or other I never seemed to have a chance to break into the game. That's because I started out with the wrong idea. I wanted to get on somebody's payroll with a guaranteed salary and expense account. If I had known, as I do today, that the men who work on commission usually make more money than the "regulars," it wouldn't have taken me so long to get started making money.

If I could only get some sort of an agency that was dignified, honest and offered possibilities for the future as well as for big profits, I told my wife, I'd take it.

Then she went over to the library table, pulled out a magazine and showed me an advertisement. "This looks to me like a splendid chance," she said.

"This ad says that any honest, ambitious man can get the exclusive county agency for the Robinson portable bath tub, appoint sub-agents and get a commission on what they make, too. You wouldn't be a common agent then," she appealed to me. "Don't you see you would be general agent for the whole county and have a lot of other salesmen working under you?"

I decided to try.

Our town had no sewer system. There wasn't more than two or three semi-modern bathrooms in the town. Ninety-nine per cent of us were compelled to put up with all sorts of clumsy make-shifts. I knew that conditions were practically the same in eight or ten neighboring towns with which I was familiar.

I knew that I myself would jump at the chance to buy one of these portable tubs. The price was not high, yet by getting the exclusive agency for the county I could make \$5 on every sale. So it did look promising. The exclusive county agency appealed to me, too. It gave an added touch of importance and dignity to the business.

Finally I decided that while I had better hold on to my job until I was sure that I could make a go of it—that I would at least make the try. I had never sold a thing in my life, but I believed that it was largely a question of nerve. As I turned out, however, there wasn't much of that required, for the tub actually seemed to sell itself.

After we had received the sample tub and tried it out in our own home we knew that we had discovered a winner. The only time I had to spare was during the evening, and so I decided to use that for the try-out. The first night was dark and rainy and there was a strong temptation to wait for more auspicious conditions, but on second thought I concluded that I would be likely to find people at home with nothing to do but listen to me, and that decided it. In five minutes the tub was emptied, dried and rolled up into a package but little larger than an umbrella, and again I was impressed with the wonderful convenience.

I didn't use any long-winded speech in trying to make a sale. I simply said that we had discovered a bathtub that was so amazingly simple and convenient that we thought they'd like a chance to get one like it. They seemed amused at first at the idea of carrying a bathtub around like an umbrella, and when in another instant they saw the ready-to-use tub, all set up ready for use, they gave me a look very much like a six-year-old bestows upon the magician who produces a live rabbit from an apparently empty silk hat. And they were just as pleased as they were surprised.

I visited only three houses that night and I sold three tubs,

Fiberlic Building Board

FOR
INTERIOR
CONSTRUCTION



Pride and Profit in a Good Job

You, the men who specify Fiberlic Building Board for walls and ceilings, and you who put it up, have mighty sound reasons for entire satisfaction.

Fiberlic is denser, stronger, more durable and has a wider range of usefulness than ground wood wall boards. It is adaptable to use in any building. Has plenty of body and will not split or crack.

Fiberlic is cut with a saw and is as easily handled as fine lumber—no warping or bulging. It's up to stay as a monument to your good judgment and skill.

A better interior finish than old methods. Ask those who have tried it. None other is made from tough, long-fibered, exclusively controlled roots.

None other is made in three good workable thicknesses— $\frac{1}{8}$, $\frac{1}{4}$ and $\frac{1}{2}$ inch. None other is chemically treated to destroy all possibility of vermin. None other will take such beautiful and durable finishes. None other is so effective an insulator against heat, cold, sound and vibration. None other is naturally reinforced.

Send for free samples of Fiberlic.

Write your name and address on the margin of this page, also name and address of your local building material dealer. Tear out the page and mail promptly. We will gladly send also any further information from our Builder's Department that you may wish concerning Fiberlic and its many uses.

If you are a dealer our exclusive agency proposition will interest you.

THE FIBERLIC COMPANY,
CAMDEN, NEW JERSEY

\$10 a Day--Cash For Your Time This Winter

No Experience Required

I want 200 additional representatives at once to begin work in their home counties advertising, accepting orders and distributing my new **Vacuum and Compress Washing Machine**, which I want to introduce to every home in the country.

New principle, low price, perfection of work, ease of operation, speed—I consider this machine one of the **most brilliant inventive achievements of the present age** in household necessities. **Just out.** No competition. It is selling faster than anything ever heard of—**going like wildfire.** Every home a customer—every customer a friend.

PROFITS START FIRST DAY

No waiting or guessing. You need no experience. **No charge for territory.** Just follow easy instructions. Failure impossible. The price of only \$1.50 each makes a sale at every house—**cash business at 200 per cent. profit to you right on the spot.**

The biggest opportunity ever offered to hustlers—men and women—who want to make money quick and fast.

SUCCESS ASSURED

No talking necessary—just show the machine—a one-minute demonstration gets the order in your book—and every time you deliver a machine your bank account gets a hearty meal and grows with exciting rapidity. Wouldn't you like to be able to draw your check for \$5,000 at the end of this year, and all from new money **earned in cash?**

Frank Greene sold 45 first three days—**profit, \$45.** F. Hughes, of San Francisco, **made \$21 first 8 hours.** T. F. Speakman at Gainesville, Ala., just took 36 machines right out and left one on trial at every home along the street. **Not a one came back on his hands**—every one was kept and paid for in cash—**profit, \$36**—and he didn't have to use a single word of argument. **They virtually sell themselves.** L. M. Parker, of Glen Allen, Ala., put out 108 machines the same day. All were kept and paid for but one—**profit, \$107.** Can you beat that? **How would you like to get behind a job like that?**

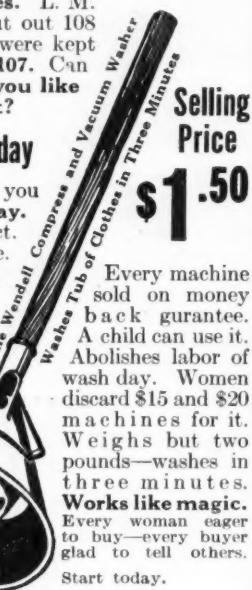
Mail Your Application Today

This is my warning to you, if you want this position—**don't delay.** Get your county under contract. To wait means possibly to lose. Write me a letter or a postal card **today.** If you are honest and willing to work **I will give you the position.** Do not let someone else get ahead of you. I want agents, general agents and managers. **Write today**—then you will have done your part. **Do it right now.**

Address

Pat. Jan. 30,
1914.

**H. F. WENDELL, Pres.,
Wendell Vacuum Washer Co.,
630 Oak St., Lepisic, Ohio**



Every machine sold on money back guarantee. A child can use it. Abolishes labor of wash day. Women discard \$15 and \$20 machines for it. Weighs but two pounds—washes in three minutes. **Works like magic.** Every woman eager to buy—every buyer glad to tell others. Start today.

or rather three families insisted on buying and I agreed to accept the orders. If this was selling, it certainly had no terrors, and to think that I had earned \$15 in a little less than two hours—almost as much money as my usual six days paid me.

Three more evenings were devoted to the try-out and I had a total of eleven tubs to my credit. So I decided to quit the old job altogether.

In the next few days I got several orders without soliciting them at all. Mrs. Smith simply saw the tub at Mr. Jones' and telephoned me to order one for her. Sometimes when I came home at night my wife would have an order or two waiting for me.

Then I began to pay attention to my opportunities as county agent. Lots of fellows wanted to compete with me when they learned how well I was doing, but Mr. Robinson protected me and referred each of them to me as the county agent. Soon I had a crew of four men working for me in neighboring towns, and as I made a nice, fat commission on their sales, too, it wasn't long before I was enjoying an income eight or ten times greater than my old office job.

The fellows who are working under me are doing almost as well. They range from 18-year-old school boys to one old man just passing the sixty mark. One is a woman, and she, too, is succeeding finely. Every one of them left a meager-pay job and every one of them has succeeded here.

I wish that every man and woman who is tired of low wages, long hours and exacting bosses might follow our example. You can if you only will. Remember, 70 per cent of all the people in the United States are without proper bathing facilities. That spells opportunity for you. Mr. H. S. Robinson, the president of the Robinson Cabinet Manufacturing Company, 750 Factories Building, Toledo, Ohio, tells me that he still has quite a few exclusive county agencies open. Write for full particulars.



Electric Lights for the Home

The comfort and convenience which accompany the use of electric lights are as possible for the country home as for the city house. The fact has been somewhat overlooked and by simply plugging along in the same old way, the farmer and the country resident have not kept up with the times in this direction.

The Isolated Electric Plant Co., 68 W. 106th St., New York City, have considered the farm and country house problem in making up their plants for furnishing electric light and power. They are prepared to show our readers how they can at a very moderate expense, light their homes, farms or neighborhoods with an isolated plant which will require very little attention in its operation, but which will furnish any desired amount of current, day or night.

Each outfit being practically a separate proposition, it will be necessary in most cases to give the Isolated Electric Plant Company data regarding the conditions, the number of lights required and a sketch of the location of the rooms and buildings to be lighted. In this way, the plant will be laid out exactly for that individual case and will so give far better results. Special prices quoted to carpenters and builders.



The Massachusetts forestry association offers as a prize the planting of fifty acres of white pine, to the town which gains first place in a contest for town forests.

Because of the war, English manufacturers and consumers of wood pulp have been caused considerable uneasiness. Production is at a standstill in the countries at war, and in Norway and Sweden, principal sources of supply, mills have been greatly hampered because of a lack of coal.



Wear-Tear- Weather and Rust- PEARL Resists Them All-

Genuine Gilbert & Bennett PEARL Wire Cloth is built to resist the ravages of the elements that combine to render common "galvanized" and "painted" screens worthless in most no time at all.

It is as near rust-proof as metal can be made. Rendered so by a wonderful metallic coating, the composition and application of which is exclusive with the Gilbert & Bennett Mfg. Co.

When you consider the fact that frames and labor are the biggest cost item in screens, you can't afford to put in any material that will not give the absolute maximum of wear and satisfaction. Genuine Gilbert & Bennett PEARL Wire Cloth is insurance against replacement and a warrant of satisfaction.

GILBERT & BENNETT
Pearl
WIRE CLOTH

**For Screening Doors, Windows and Porches
Made in Two Weights—Regular and Extra Heavy**

The appearance of your home will be added to, not detracted from, if you screen with Gilbert & Bennett PEARL. "Beautiful" rightly describes its slighty appearance.

And the "invisible gray" to which it turns after a snort weather exposure is permanent and offers practically no obstruction to the vision.

Don't be deceived. There can not be a "just the same as the PEARL." The manufacture and application of the non-crack, no chip coating from which it derives its wonderful rust-resisting qualities is a secret process, the exclusive property of this company.

You can buy PEARL in two weights—Regular and Extra Heavy, Extra Strong Grade.

But to be sure of PEARL wear you must get genuine Gilbert & Bennett "PEARL Wire." Two Copper Wires in the Selvage and a Round Tag bearing our name on each roll are the identification marks. Ask your dealer or wire us direct for samples and literature.

Write our nearest office for samples of both Regular and Extra Heavy PEARL, full details regarding same, and of nearest dealer.

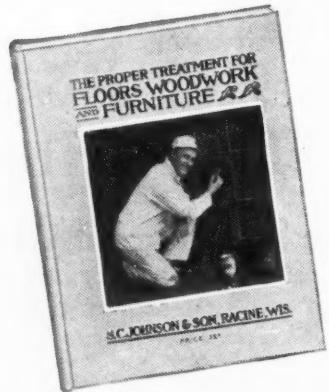
*Conscientious Carpenters, Contractors and Architects
recommend and use Gilbert & Bennett PEARL Wire Cloth*

The Gilbert & Bennett Mfg. Co.
(Established 1818)

Dept. A30 277 Broadway, New York
Dept. A30 S. Dearborn St., Chicago
Georgetown, Conn. Kansas City, Mo.



FREE! Instruction Book on Wood Finishing



THIS book is the work of famous experts. It is beautifully illustrated in color. It gives complete specifications for finishing new floors, woodwork, etc., and refinishing old work of this character—covering capacities, etc. Every contractor can profitably read this book.

JOHNSON'S PREPARED WAX

contains a larger percentage of the hard expensive polishing wax than other brands. For this reason it covers a larger area—gives a better and quicker polish and insures a satisfied customer. It may be used with perfect results over Johnson's Wood Dye, Paste Wood Filler or any other finish—varnish, shellac, oil, etc.

JOHNSON'S WOOD DYE

made in 17 standard shades for the artistic coloring of all wood—floors, woodwork and furniture. It does not lap or streak—penetrates deeply without raising the grain—is economical and permanent. A trial will convince you. If you have never used Johnson's Wood Dye write us and we will see that you are promptly supplied with good sized samples for experimental purposes. Use the coupon below for free booklet.

Please send me free and postpaid a copy of your 25c illustrated color booklet, "The Proper Treatment for Floors, Woodwork and Furniture."

Name _____

Address _____

City & State _____

Fill out this coupon and mail to

S. C. JOHNSON & SON
"The Wood Finishing Authorities"
RACINE, WIS.

ACB1

The Automobile—A Necessity

By George A. Kissel
(President Kissel Motor Car Company)

A notably conservative and accurate metropolitan newspaper recently made the editorial statement that the average physician with a scattered practice saves time worth ten dollars each day he uses his automobile.

The writer goes on to prove that motorists having great financial interests will show an average saving far higher than the professional man, but, for the sake of argument, credits an average saving of a dollar a day—in time—to the million and a half American cars now in use. This means that more than a half billion dollars will thus be saved to Americans in 1914.

Astonishing figures, but who will venture to dispute them? What car owner will deny that his time is worth so little that his car doesn't save a dollar's worth of it a day, no matter how little he rides?

In carrying this line of thought to its logical conclusion, the writer points out that on the estimated investment in American automobiles of a billion and a half of dollars, a return of thirty-three and a third per cent is shown. And he asks: "What other investment of this magnitude gives such a return?"

The Kissel Motor Car Company recently made careful inquiry to learn what percentage of KisselKars were used to a material extent in the owner's business. It was learned that eighty-one per cent were thus employed, and most of the remaining nineteen per cent were admittedly used to carry their owners to and from business.

Any energetic and ambitious man who realizes the sound truth of Bulwer Lytton's maxim, that "time is money," and who apportions his work and assesses his efficiency accordingly, ought to make a car pay for itself in at least three years' time.

How much more than this saving of time—which is money—the automobile means to modern civilization is incalculable. It increases the value of prosperity by annihilating distance, it is a wonderful tonic and preserver of health, and it employs, directly and indirectly, a tremendous army of workers.

There are four hundred and fifty automobile manufacturers in this country employing hundreds of thousands of men, mostly skilled mechanics. There are upwards of fifteen thousand local dealers and another three to four thousand garagemen who do not sell cars. There are hundreds of makers of automobile accessories representing thousands of workers. The metal, lumber, leather, glass, rubber, oil and other industries owe a very large share of their prosperity to the automobile. In New York State alone there are sixty thousand chauffeurs.

The modern automobile is decidedly not a plaything—not a luxury. It is a necessity to business as business is carried on today, and will be even a greater necessity to business as business will be carried on in the future.



Place to Buy Parquetry Flooring

Except for the usual high cost, some parquetry flooring would be laid in practically every residence. For parlor, living room or library nothing adds more to the distinction and beauty of the room. Everyone loves a beautifully finished hardwood floor, but the cost (as parquetry is usually sold) has stood in the way.

The Federal Parquetry Mfg. Co. are now offering parquetry squares and herringbone strips direct from their mill. Their prices will bring this beautiful material within reach where builders generally can use it.

Federal parquetry is easy to lay; in fact, all the directions needed are furnished builders along with each shipment. The sales manager of the company tells us that a surprisingly large

Lumber used for exterior work should be reasonably soft, of firm texture, free of pitch, so it may be worked with ease and nailed without injury, and of a character to take and hold paint.

That definition of the ideal outdoor wood effectively and minutely describes **Arkansas Soft Pine**.

No other wood on the market gives the builder greater value for the money he invests than is secured by the use of **Arkansas Soft Pine**.

No other wood gives the contractor greater satisfaction or enables him to produce a better structure.



Siding, window frames, porch ceiling, columns and floors are of Arkansas Soft Pine.

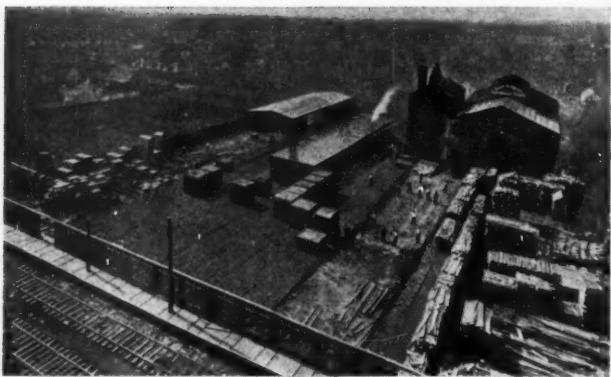
The builder of this home used Arkansas Soft Pine for all interior and exterior woodwork, not because it was the cheapest, not because it cost more than any other wood, but because it was considered best for the purpose.

Ask Your Dealer—Arkansas Soft Pine is within your reach. It is as close to the builder as the nearest lumber yard, with which arrangements can be perfected to secure supplies whenever needed.

We have published a treatise on the Use of Arkansas Soft Pine for Building.

Send for Copy.

ARKANSAS SOFT PINE BUREAU
1728 Transportation Building **Chicago, Illinois**



Bird's Eye View of the Plant and Yards of the Federal Parquetry Mfg. Co. at Lexington, Ky.

number of carpenters and builders all over the country are taking up parquetry flooring work this winter. They get out around soliciting orders which they secure without much argument, as a fine parquetry floor is less expensive than a good carpet. Housewives are getting sick of the old dusty carpets, and are easily persuaded to be up-to-date and have a nice hardwood floor. This is a line of work well worth while investigating. The Federal Parquetry Mfg. Co., 175 Fifth Ave., New York City, will be glad to furnish full particulars on request. They have a catalog of special interest known as "Circular No. 16," which they want to send to our readers.

They operate large mills at Lexington, Ky. This is a central location, with excellent shipping facilities both east and west. All orders are shipped direct from the mill, and are guaranteed to be of the highest grade kiln dried, uniform, finely-matched white oak stock.

For Satisfaction Use "Pearl" Wire Cloth

At this time of year the screen business should be getting active for a great many carpenters and builders. The making and renewing of window screens and screen doors is a good money maker for these cold winter months. It is shop work, and a fellow doesn't have to have a very big shop, either, to handle it O. K. Although the weather may be down to zero now, folks know that fly time and screen time is coming, and that their old screens won't do for another season. Accordingly, many carpenters and builders are getting out after the screen work and will have it all cleaned up before the outside building season opens.

Now just a word about *quality* in wire cloth. Every man, if he has an eye to the future, wants his work to stand as his best advertisement. Satisfied customers are worth-while just from a dollars and cents point of view. Be certain of pleasing your screen customers this year by using Gilbert & Bennett "Pearl" wire cloth. Its price is so little higher than that of ordinary painted screen that the difference on each individual job is small. But when it comes to difference in wear and satisfaction, well, that is where you profit by using this high-grade material.

"Pearl" wire cloth is made of an exceptionally hard, strong steel wire, protected by a handsome waterproof metallic coating from which the name "Pearl" is derived. It is pearly gray in color; practically invisible when placed in a window or door. Moreover, its coating is absolutely permanent. It will not crack, chip or peel off.

As you know, screens do not wear out; they rust out. This coating or waterproofing process which is used on the genuine Gilbert & Bennett "Pearl" wire cloth makes it as near rust-proof as metal can be. We know of cases where "Pearl" wire screens have been in use for 15 years. Think of it!

Look at the accompanying photographs. Consider them

Everlasting Metal Columns in Correct Design

Columns exactly like those used in the world's most famous buildings are now being made from metal.

They do away absolutely with checking, rotting, warping, splitting, and opening of joints so common in wood columns and give you the beauty and permanence of stone at a first cost no greater than wood.

UNION METAL COLUMNS

"THE ONES THAT LAST A LIFETIME"

are made with a shaft built up of open hearth steel specially galvanized. They are tapered and fluted by patented machinery to obtain the required entasis and stopped flutes. The base and all bearing members are of heavy metal making a column that will last as long as the building itself.

For porches, pergolas, interior work—anywhere that columns can be used there is a Union Metal Column of correct design and size.

Send for our folder with construction and complete details.

Our catalog will be found in Sweet's.

The Union Metal Mfg. Co.
CANTON, OHIO

Stopped Flutes
Another detail which makes the column architecturally correct.

Entasis
The curving taper characteristic of classical design.

TRY the NEW WAY Of Buying By Mail

Geo. A.
Bottger,
Pres.



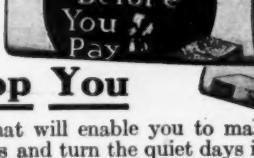
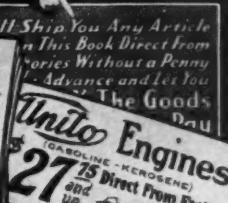
I want every Carpenter and Builder to know about our new plan of selling United Factories products. It is a plan that pleases everybody, but appeals to carpenters and builders particularly, because it gives you a chance to know before you pay for the goods you order that your customers will be pleased. You take no risk—You

See and Try the Goods 30 Days Before You Pay

No other house in America makes you such a liberal offer. You have no bank deposit to make, no C. O. D. to pay—no notes to sign. You simply order the goods and give the name of your bank.

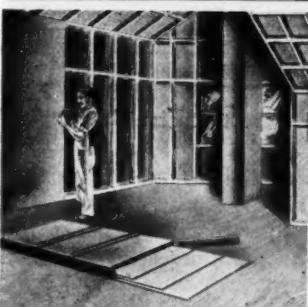
This arrangement puts you on the same credit basis as any other responsible dealer, and you will often be able to complete the job and collect for the work before the 30 days are up. Write for Free Catalog today.

GEO. A. BOTTGER, Pres.



Don't Let Cold Weather Stop You

Here are a number of seasonable bargains that will enable you to make an unusually good profit on your winter business and turn the quiet days into busy ones. Why not get the good profit that comes from putting on Unito Wall Board, Prepared, and Metal Roofing, Metal Ceiling, Interior Painting, Putting in Electric Lighting Systems, and selling or using Unito Gasoline Engines.



UNITO Wall Board

The only kind of Wall Board that is absolutely moisture-proof. Make this trial and be convinced. Send for free sample and dip it in water, then lay on a steam radiator. It won't absorb water, won't curl up from heat—lays flat and smooth as plaster walls—never cracks, is also heat-proof—cold-proof—sound-proof—rat-proof and fire-retarding.

Made of three heavy layers of special waterproof fibre board heavily cemented with pure mineral asphalt. Comes in three grades.

GRAY WALL BOARD For interior work to be papered, painted or decorated same as plaster walls. Price, in lots of 25 squares or more, per Square (100 sq. ft.) \$2.15.

GRAINED WALL BOARD — A beautiful quartered Oak finish—looks like highest grade genuine veneer. Makes handsome dining room walls. Price, in lots of 25 squares or more, per Square, \$2.50.

UNITO WATERPROOF WALL BOARD For outdoor building purposes, such as poultry houses, sheds, out-buildings, etc.

Price, in lots of 25 squares or more, per square, \$2.75.

Write for Free Samples.

Guaranteed Roofing **78^c** NOW - **A Roll**



This is our famous Two-In-One Brand—all perfect new stock and every Roll guaranteed. Contains no tar, straw or other cheapening filler. Made of best wool felt and pure mineral asphalt. Finished with one side sanded and the other rubber-coated. Can be laid either way. Comes in three weights. Send for Samples. Also ask for samples of Red and Green Asphalt Shingles.

Get United Factories Prices Before You Buy

Fill out the coupon or drop us a postal for our new 1915 catalog of Ready Roofing, Metal Roofing, Metal Ceiling, Wall Board, Paints, Wire Fencing, Buggies, Harness, Implements, Ranges, Power Washing Machines, Sewing Machines, etc. All sold on the "Try-Before-You-Pay Plan". Write for Free Catalog and Special Folder of the articles in which you are interested.

The United Factories Co.
2225 W. Third St.
CLEVELAND, OHIO

THE UNITED FACTORIES CO.
2225 W. Third St., CLEVELAND, OHIO

GENTLEMEN:—Send me your latest Catalog. Interested in Ready Roofing. Metal Roofing. Paints. Gasoline Engines. Harness. Implements. Buggies. Cream Separators. Fencing. NAME: _____ P. O. _____ State: _____ R. F. D. or St. No. _____

PRICES CUT ON Metal Ceiling

Prices were never so low as now and catalog shows several very rich patterns. Send dimensions of room to be covered and our estimating department will tell you the cost of material and send instructions for applying.

FREE
Also get our prices on all styles of G. H. Grade Metal Roofing.

UNITO Guaranteed VARNISHES

For all kinds of work. Write for free sample color cards of Unito Gloss Interior Paint, Unito Enamel Paint, Unito Varnish Stains, Unito Floor Paint, Velvet Wall Finish, etc.

ELECTRIC LIGHTING OUTFIT for RURAL HOMES

Complete with engine and 50-light equipment—only \$240. At this price you can install system for less than others ask and make a handsome profit.

HOUSE PAINT GUARANTEED FIVE YEARS

\$1.20 PER
GAL. This is a fresh mixed, ready to use Paint, ground to a velvet smoothness. Guaranteed to spread as well, go as far and make as good a job as any \$2.00 to \$2.50 per gallon paint. You can use one-fifth of your order at our risk, then pay if pleased. For a cheaper, dependable paint we recommend our

CHALLENGE BRAND at only 98c per Gal.

WRITE FOR PAINT COLOR SAMPLES

UNITO ENGINE \$27.75 1 1/2 HORSE POWER SIZE

A dependable power plant for light shop use, such as lathes, emery wheels, drill presses, etc.

We quote correspondingly low prices on larger sizes. Every engine guaranteed to deliver rated power and to give satisfaction. Pay in advance.

Shipped on 30 day's trial without pay in advance.

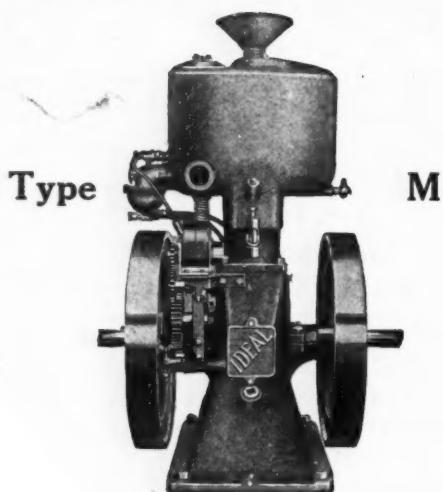
WRITE FOR FREE CATALOG FOLDER



When Buying An Engine (Or Power Equipment)

HERE'S WHAT
YOU
WANT

Constant Service
Long Life
Economy
Sturdiness
Good Design
All Around Efficiency

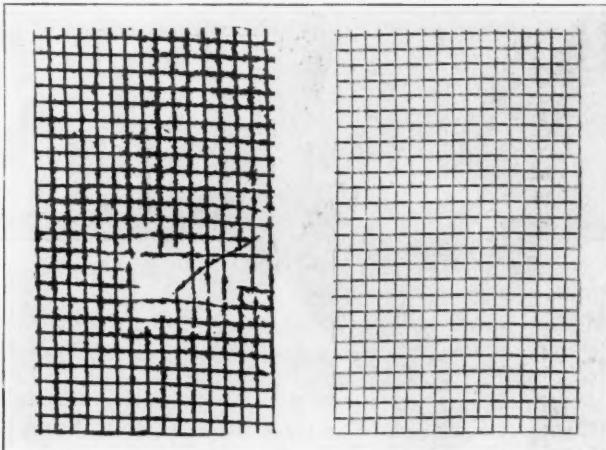


THE IDEAL

embodies all the above and many more. If you want the product of the oldest and greatest gasoline engine makers in the world get an IDEAL. The engine is the heart of all power equipment. Get a good heart, get an IDEAL—it will keep the wheels turning all the time. Write for our large well-illustrated Catalogue, it tells all.

ORIGINAL GAS ENGINE CO.

R. E. OLDS, Chairman
630 Kalamazoo St., East
LANSING, - - - - - MICH.



A Comparison—Common Painted Screen, 1 year old, and "Pearl," 7 years old.

well; especially you carpenters and builders who have been using painted wire cloth because "Pearl" has never been called to your attention. The photo on the left shows a piece of ordinary painted screen that has been in use for one year. This is by no means an exceptional case. The photo to the right is a sample of Gilbert & Bennett "Pearl" wire cloth after seven years' wear.

Consider these facts when making up your screens this year. Talk "Pearl" screens. You will be surprised how easily you will get orders. You have to charge only a very little more for "Pearl" wire cloth.

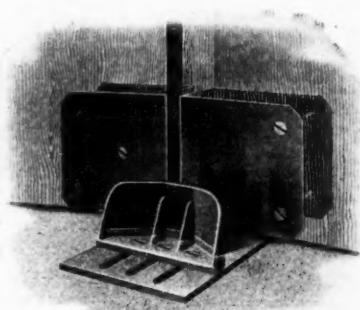
Genuine "Pearl" wire cloth is easily identified. The signature of the Gilbert & Bennett Mfg. Company, together with the name, "Pearl Wire Cloth," appear on the outside wrapper. Each roll has a round label which also bears the name "Pearl," and the signature of the manufacturers. This wire cloth is also further identified by two copper wires in the selvage. "Pearl" wire cloth is made by the Gilbert & Bennett Mfg. Co., Chicago, New York, and Kansas City. Write them today for their interesting catalog.



"R-W" Garage Door Equipment

The Richards-Wilcox Manufacturing Company, Aurora, Ill., offer the "R-W" parallel door equipment, Nos. 256 to 259, inclusive, for sliding garage doors. This equipment includes sliding door fittings.

One of these fittings is the "R-W" adjustable floor center door guide, for double garage doors, with bumper shoes on the sliding door. This device guides the bottom of the doors, and holds them in position when they are closed. The guides



"R-W" Adjustable Floor Center Door Guide.

You Just Can't Ignore These Savings In Coal Bills

Heating Costs cut $\frac{1}{2}$ to $\frac{2}{3}$ with the New-Feed UNDERFEED

YOU will make a tremendous hit with your clients if you show them just how, why and where the Williamson New-Feed UNDERFEED boiler or furnace will save them money. They will thank you for showing them how to have more heat, better heat, cleaner heat and *at a saving of from fully one-half to two-thirds.*

Installing a Williamson New-Feed UNDERFEED enhances and perpetuates your best work. It makes the house you build a real home and makes the owner a booster for you and your work.

Please remember that Underfeed savings in coal bills of from $\frac{1}{2}$ to $\frac{2}{3}$ are actually guaranteed. See the pictures to the right. These were picked at random from thousands of such others. Here is what the owners say:

"My experience as a user of the Underfeed is that I can and have actually heated successfully, my large ten-room house with a little more than half the cost of hard coal. My total cost last year was \$42 at advanced prices. My neighbor whom I influenced to buy an Underfeed, told me the other day, it was positively a great success in his house."

(Signed) A. P. Breitenbach,
Detroit, Mich.

"I am always able to keep temperature above 70 degrees, even during coldest weather. Largest fuel bill covering one year's heating, \$27. Smallest bill, \$22. This for a twelve-room residence."

(Signed) H. C. Beman,
Meadville, Pa.

"In the fall of 1912, a Williamson Underfeed Hot-Air Furnace was installed in my residence. It was in operation during the winter of 1912 and 1913 and gave splendid satisfaction, maintaining an even and abundant heat, even during the most trying weather. The fuel consumption is low and uses a cheap rate of coal. My coal bill for the winter was about \$40, whereas, for the winter before with a hard coal overfeed \$104, and did not have more than half the rooms comfortable. I am heating ten rooms, two baths and large hall."

(Signed) A. H. Reading,
Valparaiso, Ind.

WILLIAMSON NEW-FEED UNDERFEED Furnaces and Boilers

Cut Coal Bills $\frac{1}{2}$ to $\frac{2}{3}$

Extracts from other letters telling of Underfeed savings say: "Coal bill \$16.22 for seven rooms." "\$5.40 to heat four rooms." "Reduced coal bills from \$109.00 to \$53.00." "Underfeed reduces coal bill 60%."

And so it goes. One continuous stream of letters telling of more heat and less coal. The Williamson New-Feed UNDERFEED cuts coal bills one-half to two-thirds. This latest Underfeed has many new improvements. Now requires even less attention and less effort than ever. A twelve year old boy can manage it. Requires firing but once or twice every 24 hours, depending on weather conditions. Ashes need be removed but twice a week.

With the Underfeed, the clean live fire is always on top. Coal is fed from below. No smoke, soot, clinkers, smell or dirt. Ashes clean and few. These combined features are exclusive with the Williamson New-Feed UNDERFEED. It adds to the comfort and value of any home, store, church, hall or other building. Adapted to warm air, steam and hot water. Another big advantage is that the New-Feed Underfeed takes the cheaper grade of coal. This in itself means a further wonderful saving.



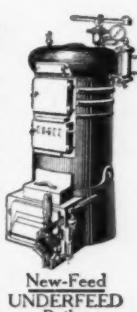
Cut-Out View of
UNDERFEED
Furnace

Yes, we Guarantee 50% Saving

Where the New-Feed UNDERFEED is properly installed and operated we actually guarantee at least this saving. Guaranteed backed by a million-dollar corporation. You take no chances. Your client takes no chances. Your new building will be at its best if it is equipped with a New-Feed UNDERFEED. To learn more about it and how the New-Feed UNDERFEED means mutual saving and satisfaction, send the attached coupon today. Doing this will cost you nothing, involves no obligation.

ADDRESS:

The Williamson Heater Co.
(Formerly Peck-Williamson Co.)
37 Fifth Ave., CINCINNATI, O.



New-Feed
UNDERFEED
Boiler



One-half Saved Heating 10 Room House



\$22.00 Heats 12 Room House



Saves \$64.00 in One Season

THE WILLIAMSON HEATER CO.

37 Fifth Ave., Cincinnati, Ohio

Tell me how to cut coal bills from $\frac{1}{2}$ to $\frac{2}{3}$ with a Williamson New-Feed UNDERFEED.

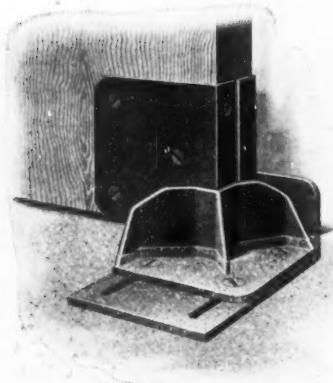
Warm Air..... Steam or Hot Water.....
(Mark an X after System interested in)

NAME.....

ADDRESS.....

My Dealer's Name is.....

DEALERS! Let us tell you about the New-Feed UNDERFEED and our 1915 proposition. You are winners.



"R-W" Adjustable Floor End Door Guide.



Unlocked.
Two Views of the "R-W" Parallel Garage Door Bolt.



Locked.

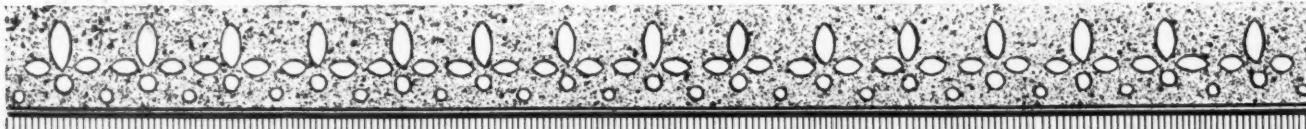
weigh 4 pounds. They can be used with either concrete or wood floors and are adjustable for doors $1\frac{1}{4}$ to 3 inches thick.

There is also the "R-W" adjustable floor end guide. This specialty is intended for use with sliding right-angle garage doors, and it will hold the bottom of the doors in place, whether they are open or closed. These guides weigh 3 pounds and they are adjustable for doors $1\frac{1}{4}$ to 3 inches thick.

Two views of the "R-W" parallel garage door bolt are shown. This bolt is intended especially for garage doors, operating on parallel tracks, but may be used on single doors by inserting a keeper casting in the jamb on the side wall. This bolt is made of malleable iron and steel and it is suit-

able for doors $1\frac{1}{4}$ to 3 inches thick. The lock is inserted in the door stile, the key or bolt passing entirely through the stile on the inside track, and into the keeper in the stile of the outside door. When used with single doors, this bolt passes into the keeper inserted in the jamb. By turning the handle, doors are drawn together and held in that position by a stop lug resting in a notched section of the lock plate. When used on the outside of a building, a padlock can be attached, thus providing a combined bolt and lock. The doors should lap each other or jamb at least 2 inches.

These bolts are finished in black enamel, and they are packed one in a metal edged box, complete with bolts and screws. They weigh 3 pounds each.



BETTER WALLS
at a Lower Cost if
National Brand Plaster Board
is used

National Brand Plaster Board possesses many advantages over the common wood pulp boards. It is a great deal stronger, it is positively fire-resisting and a non-conductor of heat and cold. Because of its insulating properties it keeps a building warmer in winter and cooler in Summer.

NATIONAL PLASTER BOARD does not contract or expand. It will not warp when exposed to moisture—always dry. It is easiest to paper on and makes the finest appearing wall you ever saw. The fact that it is more reasonable in price than other wall boards should also appeal to you.

IF YOUR DEALER DOES NOT CARRY "NATIONAL BRAND PLASTER BOARD," WRITE US FOR SAMPLE AND FULL INFORMATION

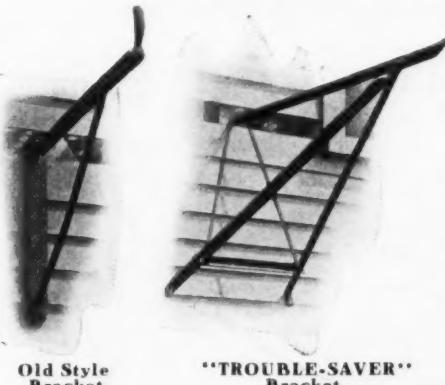
NATIONAL PLASTER BOARD COMPANY
 CLEVELAND, OHIO



We'll Lend You These Scaffolds for 30 Days and We'll Pay the Freight



IT TOOK TEN MINUTES TO ERECT THESE "TROUBLE-SAVER" SCAFFOLDS.
NOT one nail was driven in order to erect this Scaffolding—
NOT a nut or bolt was used—NOT a screw—



Old Style
Bracket

"TROUBLE-SAVER"
Bracket

The men simply hooked the steel supports around the studs, threw on the planks and went to work. It took them about 10 minutes to do it. Had wooden scaffolding been used it would have taken them fully half a day.

The "TROUBLE-SAVERS" have TWO legs to stand on instead of ONE.

They are the strongest, safest and most steady bracket on the market.

They have no side motion at all, as the weight on the outer end is divided between two equal supporting braces.

When you are through with them, they fold up flat, for convenience in handling or storing.

BEST BY TEST

The Steel Scaffolding Co. MACLEAN BUILDING CO., Contractors
Evansville, Indiana. 92 Broadway, 6th Floor Detroit, Mich., June 30, 1914

Gentlemen!—Kindly ship at once, 8 dozen additional Weatherboarding Scaffolds. RUSH—RUSH—RUSH
During the last ten years of operation and the construction of more than five hundred homes, we have used a variety of scaffold brackets and have found yours to be the best Scaffold Bracket on the market.

Yours very truly, Maclean Building Co., Per P. D. Ellis

You Can Try "Trouble-Saver" Scaffolding for 30 Days

You don't have to buy one piece of "Trouble-Saver" Steel Scaffolding until you have convinced yourself in the only way you could be really convinced that it is the thing you should have—that it is more than we claim for it.

We will send you any number of them **and we will pay the freight**, you can try them out to your heart's content for 30 days.

Write Today for this Special Proposition

The Steel Scaffolding Co.

::

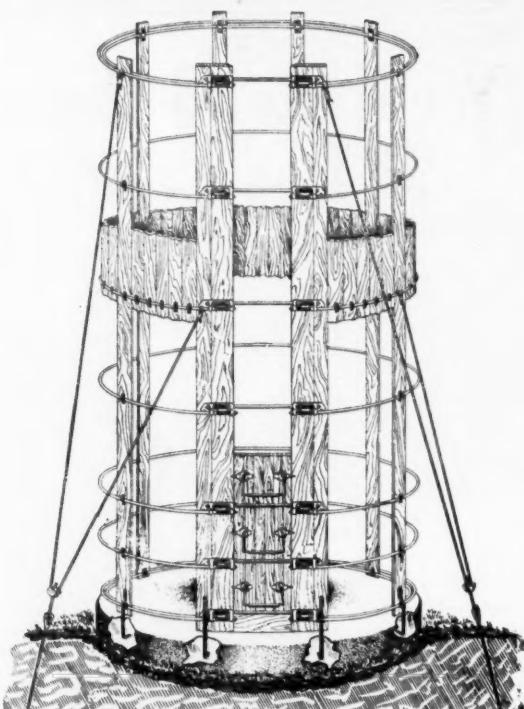
Evansville, Indiana

"A Building, Not a Barrel"

When you build a house, barn or any other building, you use a frame, it is essential to the strength of the building. Any building without a frame would be worthless. Why not buy a silo with a frame? A silo with a frame will stand up the same as your buildings do. You will please observe from the illustration that in the Unadilla silo there is an inner and outer hoop (coming down 3 inches from the top) joined together with a strong U-bolt through each frame stave. Every stave, as well as the frame staves, are inside these strong metal hoops. Unadilla staves cannot get out at the top and cause collapse. Likewise at the bottom 3 inches up on the staves there are strong metal inner and outer hoops, joined with strong U-bolts on each frame stave—the same stave that is fastened with the U-bolt at top. Every stave in the silo goes between these strong metal hoops. The staves cannot get out at the bottom and cause collapse. The Unadilla is truly a non-collapsible silo, and when the staves cannot get out at the top or bottom it cannot collapse.

The central Unadilla Silo Company also use a strong steel base anchor that goes into the cement foundation and bolts onto each frame stave thereby making a silo that can not creep on the foundation. Creeping of a silo on the foundation causes as much, or more trouble, than shrinking of the staves. Proper base anchoring prevents creeping.

Over every hoop on the silo place a clip onto each frame stave. The top anchoring is of a special type. Connect the cable to the top inner and outer hoops through the U-bolt in the frame stave. Then bring the cable down to a saddle and return one end to a different stave and fasten it to the center "U" bolt in the frame stave. This system of attaching the cable has a tendency to tighten the staves. Every stave in this silo is clipped to the center outside hoop to which you attach the center cable. This silo cannot collapse or creep. It will stand up.



Frame of Unadilla Silo is Built to Stand.

The Central Unadilla Silo Co., of Des Moines, Iowa, Unadilla, N. Y., and Beaumont, Texas, ask the assistance of carpenters and builders in selling these silos to farmers. There are big profits in this, since every farmer needs one. The company are making a special offer to our readers, including free plans. Write to them today.

Our Family Name

IS

GERMANTOWN
MASTER BUILDER

For Over 50 Years We and
Our Kind Have Been Made

BY THE

Germantown Tool Works

We are made of the finest steel procurable by expert workmen, along practical designs of proved superiority.

Not one of us is allowed to go out into public life until the most complete system of inspection has been satisfied with our appearance, quality, and general set-up. Carpenters, builders, engineers—all who use tools the world around—recognize our worth. By them we are hailed as boon companions, for they know that we never fail in our duty, that we are strong, perfectly balanced and dependable, and that with even ordinary treatment we will last a life time.

Watch the pages of this Magazine during the coming year---we are going to tell you all about ourselves showing you just how we are made---letting you in, in fact, to several pages of family history as unique as they are interesting.

GERMANTOWN TOOL WORKS, Philadelphia, Pa.

Branch: 62 East Lake Street, CHICAGO

Builders: JAMES Service Will Help You to Get More Barn Jobs

And nothing will do more to open up a **big** barn building business for you than to erect one in a neighborhood with the advice and assistance of JAMES experts. That one job will lead to more, for the dairyman who sees a JAMES-designed barn wants one for himself.

It will pay you to learn more about

the latest, most economical and most sanitary methods of Dairy Barn Construction. It will open the way to new and bigger profits.

Builders in all parts of the country have taken advantage of this service, and many of them have made barn building the most profitable feature of their work.

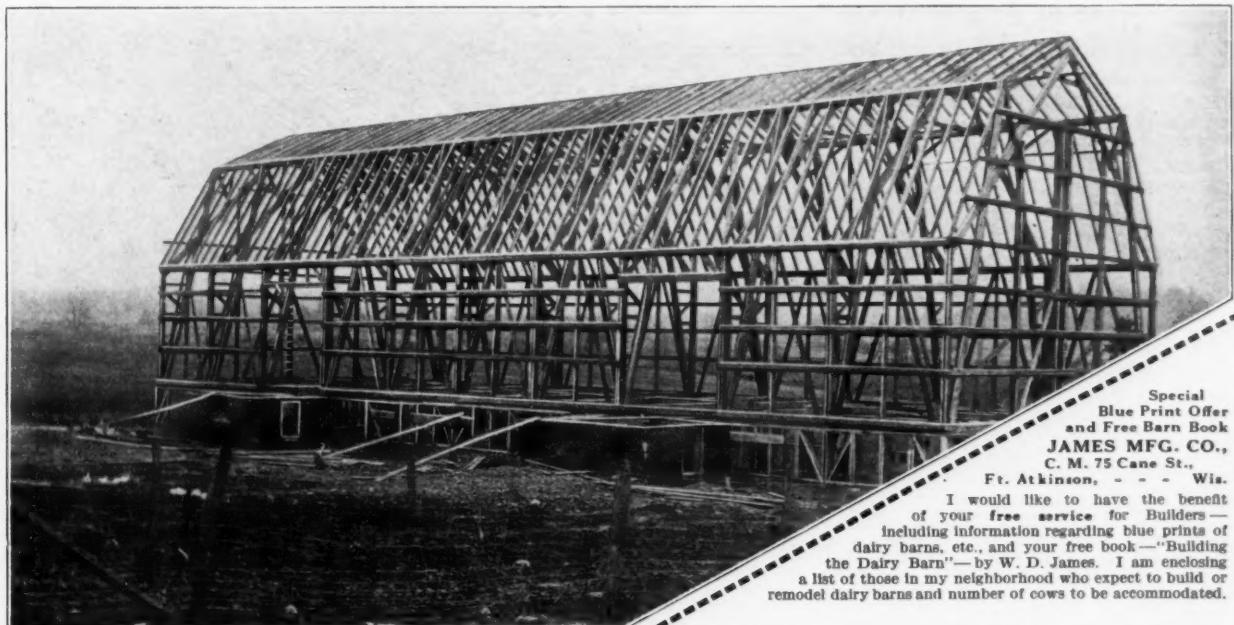
Helpful Dairy Barn Ideas FREE See Special Blue Print and Barn Book Offer Below

Our free service tells about proved principles that enable the builder to establish a reputation as the best barn-builder in his community. It tells about the plank frame construction—about ventilation, proper lighting and location, proper size and arrangement, construction of floors, position of posts, drainage, equipment, etc.

All we ask you to do is give us the names of

dairy farmers in your section who expect to build or remodel barns. We'll help create the business for you. **Let's work together.**

We have complete blue prints, specifications, floor plans and lumber bills for many different types and sizes of modern dairy barns. Ask about them now—and how to get the free help of our Architectural Department.



Special
Blue Print Offer
and Free Barn Book
JAMES MFG. CO.,
C. M. 75 Cane St.,
Ft. Atkinson, - - - Wis.

I would like to have the benefit
of your **free service** for Builders—
including information regarding blue prints of
dairy barns, etc., and your free book—"Building
the Dairy Barn"—by W. D. James. I am enclosing
a list of those in my neighborhood who expect to build or
remodel dairy barns and number of cows to be accommodated.

Name

Postoffice

R. F. D.

State

JAMES MFG. CO.,
C. M. 75 Cane St., Ft. Atkinson, Wis.

How Conveyors Deliver the Goods

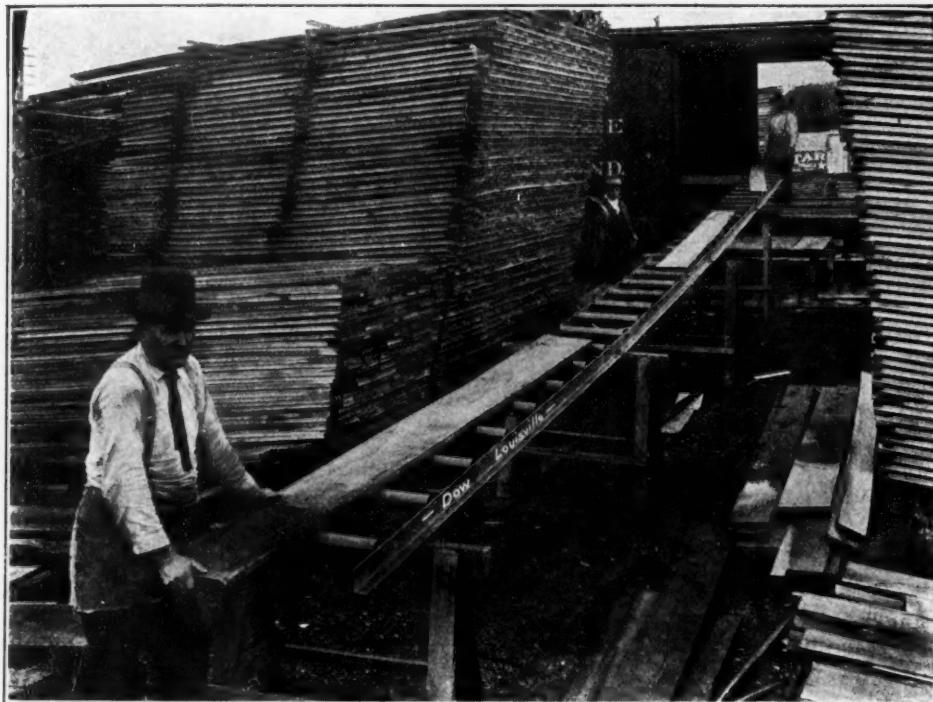
A few days ago we called on a large lumber concern and found the following conditions: They were unloading a car of lumber, a car of shingles and a car of lathes; in each case they had three men in the car and two on the ground loading the truck.

After the truck was loaded, three of the men pushed it about 100 feet away, unloaded same, and pushed back the empty truck. This operation was repeated until the car was empty.

These people have now installed the Dow Ball Bearing Roller Gravity Conveyor and unload any car with one man in the car and two men in the shed stacking material, in less time than by their old method.

Send the Dow Wire and Works, Louisville, Ky., a rough sketch showing the relative position of railroad track and shed or yard and they will show you how to cut down your operating expenses.

The initial cost is said to be the only cost of a Dow Gravity Conveyor, as the force of gravity does the work. It requires no other power. Ask them for full information.



Dow Lumber Conveyor as Installed at Kentucky-Indiana Hardwood Company.

A man entered a drug store in a hurry and asked for a dozen two-grain quinine pills.

"Shall I put them in a box, sir?" the clerk asked as he counted them out.

"Oh, no," replied the customer. "I want to roll them home."

••• Home Office 4436 Forest Avenue •••	<p>JOHN SNYDER General Contractor All Kinds of Concrete Construction</p>	••• Phone Elm 77 •••
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Norwood, O., November 16th, 1914. /9

Mr. George B. Curd,
Merchants Building,
Cincinnati, Ohio.

Dear Sir:-

It is with pleasure that I hand you herewith two photographs of the Milwaukee Concrete Mixer Co.'s. #00 Wisconsin Low Charging Mixer that you sold me in October. One of these photographs shows the mixer on curb and gutter work and the other on street paving.

I was very skeptical when I purchased this mixer as to whether it would mix a practically dry batch for concrete curb and gutter, as I consider this the hardest class of material to be mixed by a batch mixer. This mixer has done the work with absolute satisfaction. With a crew of 10 men we placed 4700 ft. in 15 days and the mixer was idle almost half the time. On Park Ave. we supplied 22 men with this one machine and placed 716 ft. in ten hours.

In ten hours running on street paving with a crew of seven men including the spreader, we placed 64 cu. yds. of six inch base, which far exceeds your rating of 50 cu. yds., and in the same given time with a crew of 16 men, my half yard mixer of another make only placed 79 cu. yds.

I am delighted with the results I have received from this little #00 Wisconsin Mixer and as it has more than paid for itself during the short time that I have had it, I cannot say too much in praise. The 3 horse power gasoline engine furnishes more than enough power, is simple and efficient and runs full ten hours on less than 2-1/2 gals. of gasoline. It is the cheapest thing on my pay roll.

You are at liberty to use this letter or refer to me.

Yours very truly,

John Snyder

Enclosure.



Wisconsin Low Charging Mixer

SIZES: 5 cu. ft. 9 cu. ft. 14 cu. ft.

HORSE POWER
GASOLINE ENGINE 3 5 6

Made for Service and for Speed.

Low Feed . . . Economical . . . Low Cost

Write for Catalogue B-14.

Milwaukee Concrete Mixer Co.
957 - 30th Street Milwaukee, Wis.

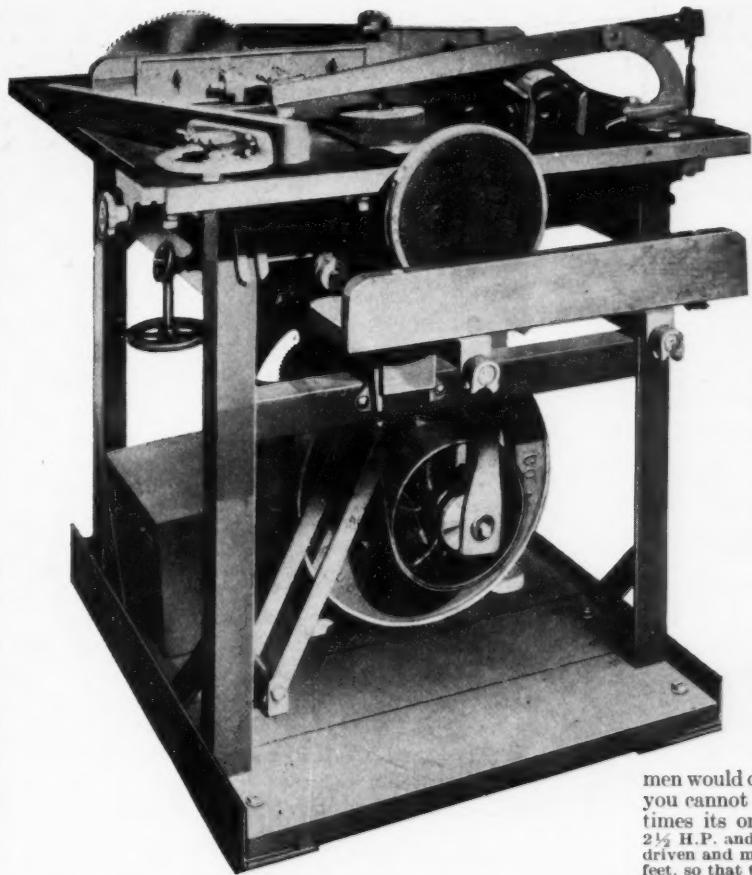
THE SULTAN SAW RIG

Powered with the Famous

SULTAN ENGINE

Every Part Guaranteed for Two Years

Take Note of These Special Features



We are the Largest Manufacturers of Contractors Equipment in the World

If you appreciate high grade equipment and remarkable prices you should have our large new 72-page catalogue. It takes every machine in detail from the raw material to the finished product. Your copy is waiting for you—send us your name.

Come to the Chicago Cement Show and Visit Our Large Exhibit

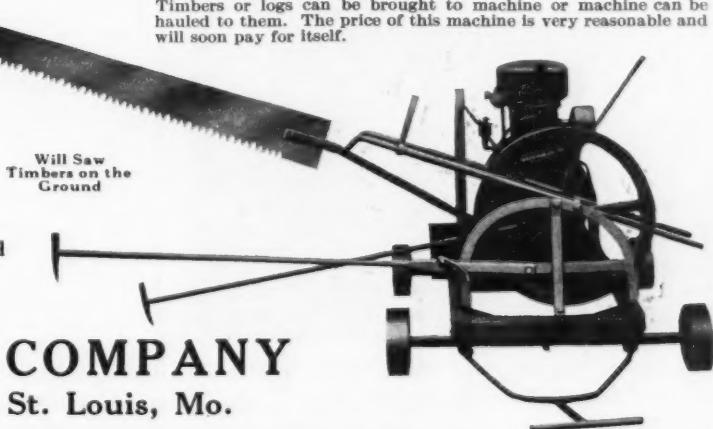
Spaces 145-156

WHITMAN A. COMPANY
7003 South Broadway, St. Louis, Mo.

A woodworker for use on the job or in the shop. Frame made of light weight angle steel, hot riveted under great pressure, insuring rigidity and years of the hardest service. Powered with our special high speed 5 H. P. throttle governing automatic four cycle engine. Every part of this engine is easily accessible but closed against dust or dirt. Equipped with gravity blower to carry away all dust and dirt from engine. Table is cast in one piece of fine gray iron and face is machined smooth and perfect. The tools on the Sultan are made by Dissiton in accordance with our policy of everything the best. The Sultan Portable Saw Rig is very reasonable in price and will easily do the sawing of six men. A reliable machine, economical in operation and with plenty of reserve power.

THE SULTAN Portable Drag Cross Cut Saw

Here at last is a portable machine that will saw big timbers for heavy construction work. An engine driven Steel Frame Drag Saw, that will saw from three to five times the number of logs or timbers that eight to ten men would do in a day. If you do heavy construction work you cannot afford to be without it. It will save you many times its original cost. It is driven by a Sultan Engine of 2½ H.P. and will run a whole day for only 45 cents. It is gear-driven and mounted on a portable truck. Saw has a swing of five feet, so that timbers can be cut in any position within its range. Timbers or logs can be brought to machine or machine can be hauled to them. The price of this machine is very reasonable and will soon pay for itself.





Every Building Contractor

Who wants to make the most of his opportunities for 1915 is requested to write for the new complete

Eureka Mixer

Catalog. We are featuring a high-grade line of quality mixers, at a fair price. You will find the size you require among our complete line.

Drop us a line on your business letter head—the Catalog is worth a place in your files.

Eureka Machine Company
103 Handy St., Lansing, Mich.



Eureka Concrete Mixer mixing mortar for Elks' Home, Middlesboro, Ky.

The Power Back of the Sultan Saw Rig

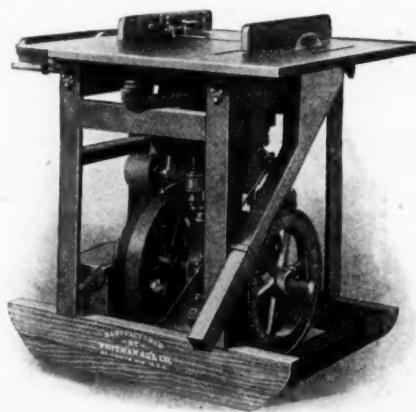
No saw rig, or for that matter, no other piece of contractor's power equipment, is any better than the gasoline engine that drives it.

When the Whitman A. Company decided to put out a saw rig, they began in the right place. They first designed a special model of the well known Sultan gasoline engine that would be just exactly right for saw rig duty.

The Sultan gasoline engines are, of course, well-known to all users of power. Since the year 1870, the Whitman Company have been laying up gas engine experience. During these forty-four years, the Sultan engines have met every test, have kept right in the front as gas engine science has developed, and all the way through have given dependable, satisfactory service. With such a good record as this, we are justified in expecting the best when the engineers of the Whitman Company announce that they have designed a Sultan engine especially and exactly suitable to the requirements of a power portable saw rig.

So having the *heart* of the saw right the way they wanted it, the machine itself was designed and constructed in the same spirit.

The machine has been tested very severely in actual building work before it was ever put on the market. The Whitman A. Company is now thoroughly satisfied that they have this machine just as it ought to be.



Sultan Power Saw Rig.

They say "Every Sultan outfit is made from the very best material, and we fully guarantee it against imperfect workmanship, bad material, flaws or breakage caused by faulty castings or parts that show flaws, and we will replace such parts, showing imperfect workmanship or flaw in casting free of charge for a period of two years from date of delivery of said article."

The Sultan portable saw rig and engine illustrated is furnished with 10-in. rip saw, 10-in. cross-cut saw, two 4½-in. jointer knives, sand paper wheel, two boring bits of ½ and ¾-in. size, emery wheel, 5-horse power Sultan sawing engine, gravity blower to take care of sawdust and shavings any many other approved details. All of the edged tools are Disston make.

The saw table, measuring 41½ by 36 inches, is made of gray iron, the surface perfectly finished. The frame is steel, made of heavy angle iron, hot riveted together; thus insuring perfect rigidity, but light weight.

As the majority of the AMERICAN CARPENTER AND BUILDER readers are fully convinced of the labor-saving and money-making value of a portable power saw rig, we need take no space here to go into that matter. All that we will say is that every one of our readers should write the Whitman A. Company, 7003 S. Broadway, St. Louis, Mo., and ask for a free copy of their 'Contractors' Equipment Catalog.'

Let Us Start You in Business

Absolutely No Experience Required

to start in this wonderful manufacturing business. We instruct you free—our booklets teach you the road to success—the machine is simple to operate—a boy can do the work. Here is your chance to **BE INDEPENDENT**. There are big contracts ready for you no matter where you live, and builders are turning to this brick to lower the high cost of building.

More than 33,000,000 brick used every working day of the year. This tells you how enormous is the demand. Contractors are crying for more brick. You can supply the demand in your locality. You can start in business—be a manufacturer of pressed cement brick and make money from the start with but very little money.

\$2,430.00 IN 90 DAYS

The money one man made in three months with a Helm Press in a little town of 375 inhabitants. Just think of it—that is, realizing a big opportunity and grasping it quickly—look around you in your town—see how concrete has taken the place of other building materials.

Doesn't it tell you that this is your opportunity—your chance to get in on the ground floor? \$10 to \$50 a day easily made with a Helm Press—making a product as staple as sugar and certain of demand as clothes for your back. Concrete must take the pace of the fast disappearing wood, stone and clay.

See What Other Men Say and Do---

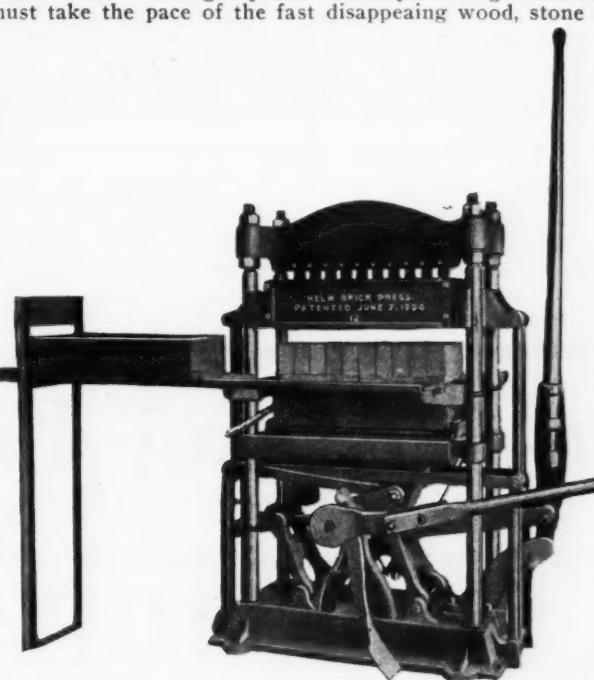
Wm. Wilson, Wisconsin, writes: "I operate the press with four men and make **5,000 per day**. The total cost of one day's output, including labor and cement, is **\$21.80**. The brick sell for **\$10.00** a thousand, and this brings me **\$50.00** for the day's output, leaving me a profit of **\$28.70** every day I operate."

Lacey D. Gregory, D. C., writes: "My Brick Press is a wonder. I am turning out **4,000** brick a day with one man's assistance. It has only cost me 50c for repairs in two years. Am building up a fine business."

Start With Little Capital

It is simply astounding what little capital is required to start a business like this—one of the fastest money makers in the country. The machine makes pressed cement brick and blocks under 80,000 pounds pressure. **No tamping—easy work**—maximum capacity 10,000 bricks daily—no burning required. Somebody in your neighborhood is going to grasp this opportunity. Why not you?

No matter what other cement products are made there, these brick blocks made by pressure will be in demand. The possibility of failure is almost eliminated—**success practically a dead certainty.**



Here are Extracts from a Dozen Others:

"Have contract for 240,000 brick at \$15.00 a thousand at factory, to be shipped 200 miles for a five-story building." "I landed a \$90,000 government contract with Helm pressed cement brick." "Just landed a contract for 400,000 Helm Pressed cement brick." "We are working on a contract for half a million pressed cement brick."

You Can Own A Factory

You can be a manufacturer of pressed cement products and have a factory. You can make clear from \$10 to \$50 a day. You can do it just as well as anyone else. We want you to know more about these manufacturers who are running a big business and making big money. We will show you how to do it with very little capital. Single building often take from a quarter million to a half million brick. This must convince you of the wonderful possibilities now open for starting a plant. You want to know all about it. Fill in the coupon. **Mail it today** and we will send FREE complete information about the Helm Press—how, when and where to make money with it. Write now before some one else in your town gets ahead of you.

Helm Brick Machine Co.,
171 Mitchell St.,
Cadillac, Mich.

Gentlemen:—
Please send me your free booklet on the Helm Press and how I can make money in the brick and block manufacturing business.

171 Mitchell Street
CADILLAC,
MICH.
Name
Address
Town State



Berger Rib-Truss Plates Being Used on New Playground Concrete Pile Co. Shops.

Raymond Co. Erects New Shops

The terrible conflict now raging in Europe has been blamed for a great many recent business failures in this country, but whether the war is really to blame or not, it is evidently not affecting the Raymond Concrete Pile Co.

On the contrary, the increase in their facilities by the addition of new buildings is a pretty healthy sign of progress.

In the construction of their new buildings, it is not surprising to find the Raymond Co. preferring concrete for the major portion of them, and this shows that their belief in

This Movable Bar

shifts, giving you all desired angles for Rafter Work, Mitre Work, Many-Sided Figure Work, Bay Windows, Interior Work, etc. Simply spring pin into desired hole and tighten thumb screws;

Bar is shifted by spring from one hole to another in every scale; Pin loosened only to change scales.

Going Fast

Remember the regular price will be \$2.00 after the 200 have been distributed in each state.

\$1.00 is the Special Introductory Price of

THE IDEAL

Rafter Square, Try Square and Mitre Square

until 200 have been placed in each state. Don't delay but send in the coupon and be sure to get yours.

THE IDEAL Three-in-One Square

will accurately lay out all Rafter cuts, Mitre work, Angle work in a jiffy—no figuring—no time lost. With this tool any man can lay out cuts for any style Rafter, Common, Hip, Valley, Jack or Cripple. Everything all figured out for you and marked in scales on the square. The Ideal makes all angle cuts for Bay Windows and Training Work. It also makes all backing cuts, Hip, Valley, etc. Will cut 81 different angles—made of superior tool steel and when folded fits into a space 8 inches square.

IDEAL TOOL WORKS, MIDDLETOWN, NEW YORK

Don't Wait—Be sure to get in on this

SPECIAL INTRODUCTORY OFFER

IDEAL TOOL WORKS, Middletown, N. Y.

Gentlemen:—I wish to take advantage of your special advertising offer and am enclosing \$1.00, for which I am to receive, prepaid, your regular \$2.00 Ideal Rafter Square, Try Square and Mitre Square.

Name.....

Address.....

Town.....State.....

FREE
Instruction
Booklet sent
with each Tool

TRY
IDEAL RAFTER SQUARE
MITRE

\$20⁰⁰ \$30⁰⁰ EARN 20 TO 30 A DAY

THERE is no limit to your earning capacity—sounds exaggerated, but it isn't. No matter if you live in small town or large city, there is a chance for you to earn from \$20 to \$30 daily, up to \$3,000 a year, with one of our money making B. B. Power Vacuum Cleaners on

30 Days' Trial

Try out the proposition 30 days—see how much there is in it. It's a great chance to start business for yourself—just what you've

been wanting to do—the very opening you've been looking for.



Tremendous Profits

\$20 to \$30 a day should be easily made. Some work three machines—operate one themselves—hire men to work the others. They make big profits from others' labor. Maybe that's what someone is doing to you. You're doing the work for small pay. He's getting the profits. Change that. Work for yourself. Get all the profits. Be independent.

Start a Business of Your Own

Remember how much you can earn daily. \$20 to \$30 is clear profit—\$500 to \$1,000 a month. The profits of the machines will pay for it. It's a business that isn't over-run and don't forget there are thousands-and-thousands of homes that will never own a vacuum cleaner of their own. Hundreds more would never think of getting a machine of their own if they could depend upon YOU.

You Can Start Small Start with one home on a street—soon you are giving regular service to half the homes in that neighborhood. There are so many things to be cleaned—rugs, mattings, carpets, mattresses, pillows, portieres, curtains, upholstered furniture, etc., etc., besides the floors and the walls. With a "Giant" B. B. Vacuum Cleaner you do it all.

Others Are Doing It—So Can You

There are churches, lodge rooms, dance halls, hotels, hundreds of places that can use your work. No experience is necessary—just a little enterprise and courtesy—and you make clear upwards of \$3,000 a year.

Mr. Rainbow writes: "The B. B. does all you claim. I knock out from \$20 to \$25 in six hours easily." When the money is earned it's practically all yours. The expense is trifling for the gasoline engine.

Mr. Staley writes: "It's the greatest dirt puller I ever saw. I make \$20 a day with it." Grasp all these opportunities. Learn that there is no other business where so small an investment will bring such wonderful returns. In fact, we have such implicit confidence in the wonderful money-making possibilities of our "Giant" B. B. House Cleaner that we will ship one to you on 30 DAYS' TRIAL.



Come To See Us At Our Expense

Up to a distance of 300 miles we will pay your traveling expense if you buy.

Start now—somewhere—anywhere. Send today for our free book and complete particulars regarding the 30 days' trial. Figure the number of homes in your town—compute how much it costs to clean them each week.

You can get part or all of this business. You have scores of friends who would gladly start you with their work—others will surely follow. You can depend upon a nice profitable business from the start. Clip off the coupon right now—mail it to us and start making more money than you ever imagined you could make.

Money for YOU

FREE BOOK COUPON

McCreery Mfg. Co.,
1018 Front Street
TOLEDO, O.

Please send me your free book and full information about the "Giant" Power Cleaner.

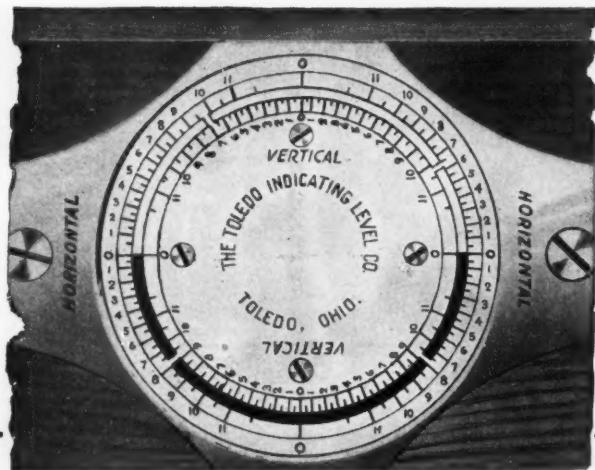
Name.....

Address.....

THE McCREERY MFG. COMPANY

1018 Front Street

Toledo, Ohio



The LEVEL THAT TALKS

It's All in the Indicator

If you're out of plumb or level an eighth of an inch per foot—bingo!—the indicator registers it instantly and accurately, where and how much to the foot.

If Mr. Level were to talk right out and say, "Mr. Man, you're out just an eighth of an inch," it couldn't be any plainer than the silent indicator shows.

Carpenters, Contractors, Builders, Masons and Mechanics everywhere unite in saying the Toledo Indicating Level is perfect.

There's no guess work. Simply adjust your work according to the indicator and you're through. No further testing—the work is **right**. One move instead of a dozen. Especially efficient for all kinds of roof and cement work.

The Toledo Indicating Level Co.

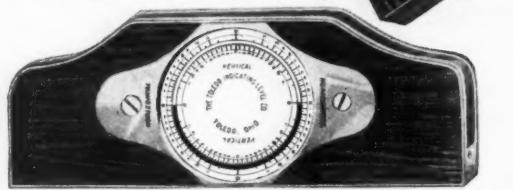
Needs no Adjustment

The Toledo Indicating Level requires no adjusting. The indicator of the Level is securely fitted into the stock. No chance of the Level ever getting out of order or adjustment. Strongly and rigidly constructed; practically unbreakable.

Easily Read in All Places

Dial is made of heavy white frosted glass, on which all lines and figures are in blue enamel, very clear cut, making it easy to read in dark and out-of-the-way places. The red indicating fluid is shown only between circular lines and tells whether work is at desired angle or not. If not at the desired angle, it will tell accurately just how much it is off per foot.

No. 105—24 in. long Price, \$5.00
 No. 105-A—24 in. long, all brass bound Price, \$6.25
 No. 106—30 in. long, all brass bound Price, \$6.50
 No. 107—30 in. long Price, \$5.25



No. 101—12 in. long, all brass bound Price, \$5.50
 No. 102—12 in. long Price, \$4.75

COUPON

FREE EXAMINATION OFFER

**The Toledo Indicating Level Co.,
1941 Nicholas Bldg., Toledo, Ohio**

Gentlemen:—Please ship me Level No. It is understood that after thoroughly testing this level, if it fails to come up to your representations, I have the privilege of returning it to you within five days, carriage collect. Otherwise I will keep and pay for it.

Name

Address

"concrete for permanence" is thorough and absolutely sincere.

The most interesting feature of the concrete work is the big area of roof, in the construction of which 150 squares of Bergers Rib-Trus Plates, No. 26 gauge, 1 inch deep, were used.

These were clipped to steel I-beams spaced 4 feet 1 1/2 inches apart, and then covered with concrete (1:2:4 stone) to a depth of about 2 inches.

The remarkable thing about it, however, is found in the fact that no temporary shoring whatever was used during construction; the Rib-Trus plates provided the base for the concrete and the support, too, and yet even with the wide span between each I-beam, there was only a very slight deflection.

Berger's Rib-Trus Plates were also used for partitions and suspended ceilings in the new shops. For full information about these plates, address the Berger Mfg. Co., Canton, O.

Offer Free Demonstrating Sets

The Stransky Mfg. Co. are making a generous offer to carpenters. Their "Evergrip Gliding Castors" for chairs and furniture sell easily at ten cents a set. The company will send one hundred sets to anyone of our readers sending them card or business letterhead; also twenty-five free demonstrating sets. These sell easily, making a first-rate side line for keeping the dollars coming in during the winter months. Address the Stransky Mfg. Co., Dept. B, 20 Warren St., New York City, for full particulars.



"Creo-Dipt" Shingles

A rather general impression has prevailed that shingles do not need to be treated. There seems really no good reason for a precedent of this kind, except that perhaps when shingles were first used they were hand-made, and, along with other material used in home building, were not stained.

Why it is that shingles today are the only kind of wood not considered necessary of protection is a mystery. What is really more hideous than a new house with side walls and trimmings newly painted and then a great expanse of roof and gables, perhaps, covered with raw shingles? *Shingles should be stained.*

Several years ago a concern in North Tonawanda, N. Y., conceived the idea of preserving shingles and at the same



A FINE EXAMPLE OF EFFECT OF "CREO-DIPT" STAINED AND COLORED SHINGLES ON A STUCCO HOUSE.

time coloring them in attractive shades. They found that their idea met with immediate acceptance on the part of architects and contractors. They could show a direct saving in the fact that their shingles, preserved and stained, would last twice as long as any unstained or brush-coated shingles, and would look much better at all times than any shingles treated on the premises.

There were two good reasons for this success: They used only a selected grade of red cedar shingles and eliminated all wedge-shaped and poor shingles, and saw to it that their shingles were thoroughly seasoned and dried, and then proceeded to preserve and color them scientifically.

\$1500.00 In One Month By This Man

THAT'S what Mr. Eakin made with a "Long" Crispette Machine. Paid his last \$10.00 for rent of a store window; at the end of 30 days he had \$1,500.00 in the bank. Today he is independent. A Crispette Machine and Crispettes did it. Perrine, Cal., took in \$380.00 in one day. Every nickel brought him also 4 cents profit. What are you going to make of the future—just barely earn a living—keep wishing for something better to turn up? DON'T DO IT.



I Am Looking for Other Men Who Want a Business of Their Own

LISTEN! Take that money you have saved up against the day of opportunity, invest it in a Long Popcorn Crispette Machine, and make fortune smile on you—build up a big paying business.

Think of the fortunes made in 5c pieces—street cars, moving picture shows, 5c and 10c stores! Everybody will spend a nickel. Everybody likes Crispettes—children, parents, old folks. You don't need any experience. You can start anywhere—in a store window, a small store room where the rent is cheap, or the kitchen of your home.

The Crispette Machine and Long's secret formula to the man of limited means is a safe and strong—a sure way to independence and fortune. Make money right from the start.

ALMOST 400 PER CENT PROFIT

Every 20c spent returns you \$1.00 cash—NOT THEORY, not guesswork, not imagination, but the actual, bona-fide proven record of profits of Crispette producers from Coney Island to Oregon, from Canada to Argentine Republic.

The world today hungers for the "different," and it pays millions of dollars every year to satisfy this desire. Why not be the one to satisfy this demand in your locality and reap your share of the golden harvest now ripe and ready for you?

Come to Springfield at My Expense

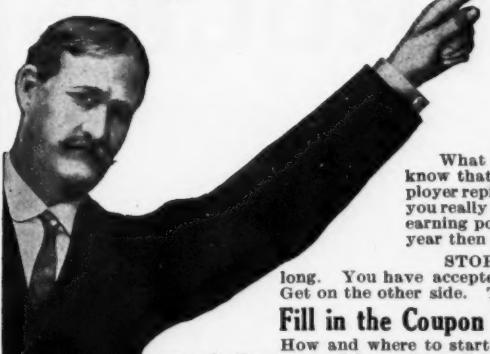
Up to a distance of 300 miles I'll pay your expenses if you buy a machine. Let me prove every word in this advertisement. No greater, better opportunity can be put up to you offering such **certainty of success**, producing the enormous, honest, legitimate profits, requiring such small investment, so light running expenses. Any man of ordinary intelligence, ambitious, progressive, energetic, who wants to get ahead in the world should make a Crispette Machine pay for itself in a few weeks.

SEND FOR
FREE BOOK

Every nickel you take in nets you almost
Four Cents profit.

I want to start you in the same business that made me wealthy.

—W. Z. LONG



STOP! You have followed the rut too long. You have accepted only what others cared to give. Get on the other side. Take only what you want. **Fill in the Coupon** Send for free book "Dollars and Sense." It tells the whole story. How and where to start. How to succeed. Gives experience of others, etc. It's worth reading, even if you don't start. If you are looking for a good thing, and easy money, send today for this book. Use the coupon →

W. Z. LONG, 1007 HIGH ST. SPRINGFIELD, OHIO

\$100.00 A DAY MADE BY
THIS MACHINE



The 8th Great Wonder of the World—The Famous Crispette Machine

Follow Carefully the Amazing Facts. ANSWER TO YOURSELF THESE PERTINENT QUESTIONS.

W. A. Phillips: "I started the 9th of last month and have cashed in up to date \$1435 with the season just starting. I thank the lucky stars I have taken hold of this business."

E. H. H. Penn, 12,000 rolls in two weeks, \$600.00; profits, nearly \$400.00. Feltmans' Pavilion, Coney Island, makes 500 pieces every 7½ minutes; earns \$400.00 in ten hours. One man living 3,000 miles from Springfield bought an outfit and shortly after ordered another to come by express. Business was so good he could not wait to have the second machine shipped by freight.

What salary do you earn? What salary do you get? Stop a minute and consider. You know that what you receive from your employer represents but a small portion of what you really earn. Get on the other side! If your earning power amounts to thousands every year then earn it and keep it to yourself.

STOP! You have followed the rut too long. You have accepted only what others cared to give. Get on the other side. Take only what you want.

How and where to start. How to succeed. Gives experience of others, etc. It's worth reading, even if you don't start. If you are looking for a good thing, and easy money, send today for this book. Use the coupon →

W. Z. LONG CO., 1007 Springfield, Ohio. Without any obligation at all, please send me free your book, "Dollars and Sense In The Crispette Business."

Name.....

Address.....

.....

The "Creo-Dipt" process—originated and controlled by these people—insures a uniformity of color on every shingle; stains are made from the finest earth pigments (not aniline dyes), ground twice in pure linseed oil in their own mills, and then suspended in a vehicle of refined creosote oil. This oil has penetrating qualities unsurpassed. It carries the creo-dote into the wood fibre, which not only preserves the shingles, but produces and insures a soft color effect.

One of the first virtues of the "Creo-Dipt" stain and process is that the colors never turn black.

The line of "Creo-Dipt" shingles is produced in eighteen grades and sizes, and in twenty-five regular shades. They are being used more and more, not only on roofs, but on side walls. The retail lumber trade has taken up their sale with enthusiasm, because they give unusual satisfaction.

"Creo-Dipt" shingles are being advertised generally in standard magazines of general circulation and in a large list of class publications reaching home owners and builders. The trade is furnished with color pads, electrotypes and other assistance, to help them in connecting up with this advertising. Full information in regard to the product and selling plans may be secured from the general offices of the Standard Stained Shingle Company, at North Tonawanda, N. Y.



They come in bundles, ready to lay. 18 different grades and sizes, in 25 regular color shades.

Master Slide Rule Endorsed by Best Mechanics

It is gratifying when one has invested much time and study, to say nothing of some thousands of dollars in cash, in an improved tool, to know that it is appreciated by the building mechanics for whom it was designed. The Master Slide Rule, which has been perfected, is now being sold by the Dahl Manufacturing Co., 51-G East 42nd St., is certainly winning high praise. Just as a sample of the letters the manufacturers are receiving from high grade men who are using the Master Slide Rule, we quote the following:

MARSHALL W. BROWN,
Assoc. M. Am. Soc. C. E.

ENGINEERING AND CONSTRUCTION.
35 Wall St., New York.
New York, Nov. 30, 1914.

Mr. C. M. Nicholson,
Dahl Mfg. Co.,
New York City.

Dear Sir:—I have carefully examined the rule I bought from you, and find by use that it has distinct advantages over all other rules I have ever used.

Yours very truly,

(Signed) MARSHALL W. BROWN.

The Master Slide Rule, as most of our readers know, is virtually two rules in one. One side carries a special type of marking for inside measure work. The other side carries ordinary ruler markings. The improved models are completely interlocking. The slides pull out automatically when the key spring is pressed, but otherwise are locked fast, insuring accurate measurements.

The Dahl Manufacturing Co. will mail illustrated circular and price list on request.

You can't buy a Kissel Kar Truck unless you need it

IF, after careful analysis, we can satisfy **you** that Kissel Kar Trucks will save money in **your** business, we will feel that we have earned the right to solicit your order.

If, on the other hand, we cannot show you in figures that trucks will benefit you, we will advise you, not only not to buy, but just why you shouldn't?

KISSELKAR TRUCKS

Kissel Kar Trucks are built in six sizes—1500 lbs., 1, 1½, 2½, 3½ and 6 tons—bodies to suit. May we investigate your haulage system?

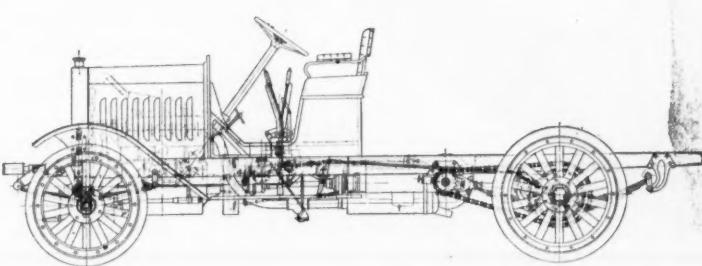
Let us refer your name to our nearest agent. At the same time we will mail you our truck portfolio with 350 illustrations—it's worth looking over.

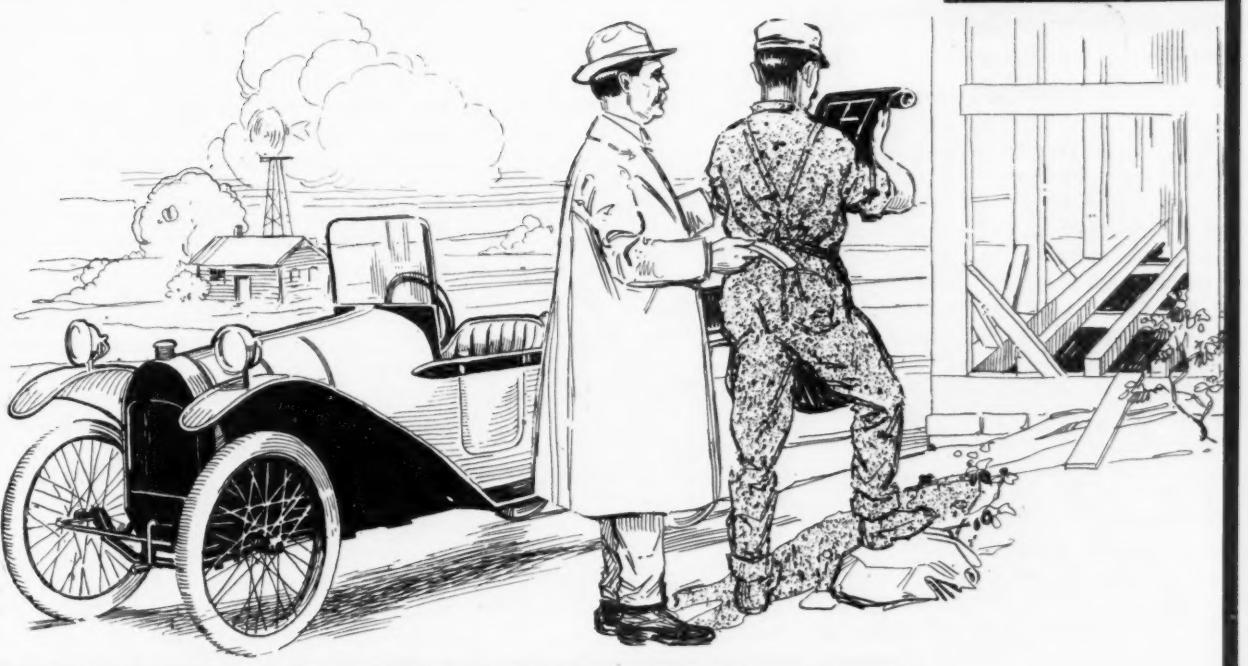
Kissel Motor Car Co.

546 Kissel Avenue

Hartford, Wis.

New York St. Paul Boston Los Angeles
Minneapolis Philadelphia Kansas City Milwaukee
Chicago San Francisco St. Louis Dallas
and 300 other leading American and Canadian points





VIXEN

A CONTRACTOR'S CAR

Haven't you as a Contractor and Builder often wished that you could get a car for your own individual needs? Not a big, heavy car that consumes large quantities of gasoline and oil and costs quite a sum to keep up. You want a car to get around the different jobs with and one that will carry a man or two besides. Well, we have designed just the car you want. A sturdy, rugged, light car that is a wonder for low cost of operation and up-keep. A car built of best materials, high grade and up-to-date in every detail.

ONLY ONE CENT PER MILE

Speedy and convenient transportation for only one cent per mile. At such a low cost you'll agree with us that the Vixen Light Car is especially adaptable for Contractors and Builders. Think how you could get about with a Vixen. The jobs away out in the country would be only a few minutes away. Think how easy it would be to take men out to the job, to shift them around without loss of time. With the Vixen selling at such a low price and operating cost reduced to the minimum you cannot afford to be without this car.

SPECIFICATIONS

Power Plant—This is our pride. Four-cylinder, four-cycle. Thermo Syphon Water Cooled. Cylinders Cast en Bloc. All valves enclosed. Rated at 12 H. P., but easily develops 16 H. P.

Ignition—Atwater Kent, separate battery.

Tires—28 x 3 Clincher. (No large tire expense with a Vixen.)

Springs—Front, double semi-elliptic. Rear, coiled-radius cantilever. Very easy riding, absolutely no rebound.

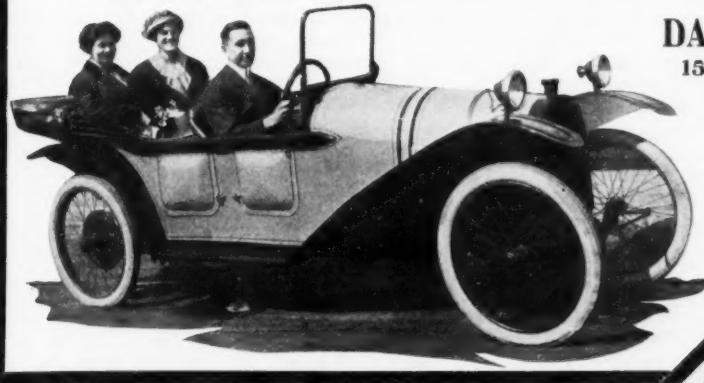
Seating Capacity—Three persons (two in rear seat). Plenty of room.

Lamps—Electric, front and rear, storage battery.

Equipment—All cars are shipped complete with electric lamps and horn, tools, pump, top, envelope and glass windshield.

EARN YOUR OWN CAR

You Contractors and Builders go about communities probably more than anybody else. Why not be our rider agent? When your neighbors see you driving this silent-running, nice-looking car day after day they will want one and you can be the one to take their order. There will be a handsome profit in it for you and absolutely no trouble or inconvenience. These cars become very popular wherever introduced. Every car sold in your locality will be sold through you and you will reap the benefit of the Vixen popularity. Send us the coupon for full particulars about this wonderful car.



DAVIS MFG. CO.

15th and Park Aves.
MILWAUKEE,
WIS.

COUPON

DAVIS MFG. CO., 15th and Park Aves.
Milwaukee, Wisconsin

Gentlemen:—Please send me booklet fully illustrating and
Also tell me how I can earn my own Vixen.

Name.....
Address.....

Pistol Grip Star Hack Saw Frame No. 1027

For nearly a generation the conventional handle for a hack saw frame has been a straight one in line with the saw blade, but such is giving way to the more natural grip found in an ordinary saw handle. Of such grips, the Millers Falls Company, of Millers Falls, Massachusetts, has brought out one which comprises distinctive features. This is found upon their Star Hack Saw Frame No. 1027 with pistol grip. There is claimed for this grip the greatest adaptability and comfort to hands of varying sizes. The handle being open and not united to the frame at its lowest point, allows the little finger of the operator to drop below the handle, if desired.

The handle is made from black composition containing some rubber, is handsomely knurled, and attached to the back of the frame by a steel rib extending practically the full length of the handle. The latter is moulded onto the rib all in one piece, and thereby gains in strength.

The "hang" of the frame is one of its particular features, the weight being nicely distributed.

The tension of the blade is by means of a thumb nut and screw stud purposely placed on the handle end of the blade so as to allow maximum stroke of the blade in places where stroke is limited by some obstacle.

The frame is adjustable for blades from 8 to 12 inches in length, is polished and handsomely nickelated, and measures $3\frac{1}{4}$ inches from point of teeth of blade to underside of back. The stock is stiff steel strengthened by a sheath on the back. Each frame is supplied with a 10-inch Star Hack Saw Blade.

Ransome's "Bantam" Mixer

The Ransomes have brought out a small mixer for builders' use. It is called the "Bantam," and it is warranted to lick double its weight of any other mixer on the roost! All joking aside, this small, easily-portable concrete mixer is backed by the same engineering and manufacturing experience that has made the large Ransome mixers accepted as standard equipment the world over. The "Bantam" is the latest offering of the Ransome Concrete Machinery Co., and they are proud of it. Every one of these machines is backed by the Ransome guarantee, "The Ransome makes good or the Ransomes will."

This new machine carries a number of very interesting features. The discharge door is special—an exclusive feature with this mixer. It completely closes the discharge opening while the batch is being mixed, but opens for the discharge. This permits mixing of a ten cubic foot batch, in spite of the small size of the mixing drum. It is said to be impossible for this door to get jammed or wedged. An extra low feed opening is another desirable feature. It is only 27 inches above the ground.

The "Bantam" has a one bag batch capacity where concrete in the proportion of 1:3:6 is being mixed. Its total weight, with mixing platform and runways complete, is 2,700 lbs. Weight of mixer alone, without platform, 2,275 lbs. The power is a three H.P. Novo gasoline engine. This mixer is belt-driven from engine to the countershaft, while the drive from the countershaft to the drum is a Pintle chain. The belt from the gasoline engine to the countershaft pulley is equipped with a tightener, which does away with the necessity of a clutch (that frequently causes trouble) and at the same time permits the starting of the engine light.

While the "Bantam" mixer is brand new, the Ransome company have given it a thorough test before putting it on the market. One of these machines has been in constant

**\$25.00 Paid for One Day's Work****BANKER'S PAY FOR AGENT'S SERVICE****A Mighty Opportunity for You to Get the Mighty Dollar**

New business. Tremendous sales. Means \$3,000.00 this year for you. Mighty labor-saving invention.
MILLION ALREADY SOLD, YET JUST INTRODUCED!

Entire country waiting to buy. Agents amazed at quick, snappy sales. All records broken. Here's just a few: Walters made \$25.00 first day; never sold goods before. Arnold, North Dakota carpenter, orders one, then two gross; sold 160 in 2 days (profit \$80.00). Hagen, Texas, sold 100 in two days. Webb, Pennsylvania contractor, averaged 10 sales per hour. O'Connell, Montana, 25 first day. Mike Bock, Minnesota, writes: "They are fine sellers; worked one day and sold 30 (profit \$15.00)." Harry Gassmann, Illinois: "Can sell scrapers as fast as I can get them. Overwhelmed with orders. Everybody wants scrapers; 100 already sold." Roy Burninghaus, Massachusetts: "Send 10 dozen. One week's work." M. H. Dodge, Kansas: "Send 5 dozen. Sold 24 in two hours." (Profit \$6.00 an hour.)

Let us refer you to hundreds like these. The article, not men, responsible for these unusual results. You can do as well. Previous experience unnecessary.

GRABS' SCIENTIFIC AUTOMATIC FOOT SCRAPER

Sells itself. You take orders—that's all. Every family wants one on their doorstep. Automatically removes mud, dirt, snow from shoe in one operation. Cleans sole, sides, heel. Works like magic. Saves drudgery, time, money, shoes—saves carpets, floors. Has 7 new patented features not found in any other scraper—10 steel blades—10 dirt outlets—twin adjustable and removable brushes—compound springs. Rotates for sweeping. Can't clog—practically self-cleaning. Handsomely enameled. Price low—only \$1.00. Agent's profit 100 per cent. Satisfaction guaranteed. Write quick for free catalog—exclusive agency—overwhelming proof. Better still, send order, naming territory. Investigate anyhow. A postal will do.

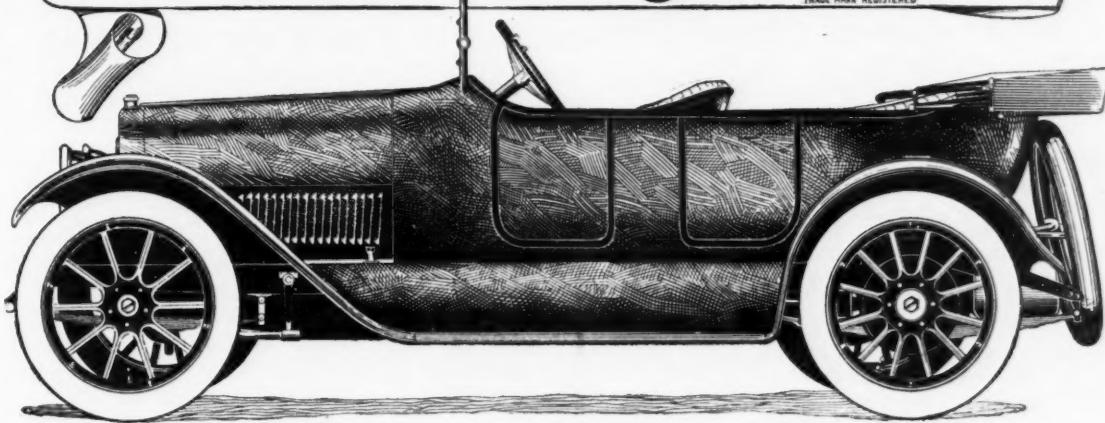
SECURITY MANUFACTURING CO. Dept. 20 TOLEDO, O.

*The result of
22 years' successful
experience in
building motor cars*



TRADE MARK REGISTERED

America's Greatest "Light Six" \$1485



The First American—Built Car to Throttle Down to 1 Mile per Hour on Direct Drive

The first gasoline motor driven automobile built in the United States that could throttle down to one mile per hour on high gear---slower than a walk---is

THE
HAYNES
America's Greatest "Light Six"

Because of its perfectly balanced motor you can readily attain a speed of 60 miles per hour—take the hills on high—pull through mud and sand on high.

If you are seeking a car that will satisfy your every requirement, yet one that your wife or daughter may drive with utmost safety, you need look no further than the Haynes.

Two Models---Three Body Styles.

Model 30—America's Greatest "Light Six" five-passenger Touring Car, 121" wheel-base, weight 2,950 pounds.....	\$1,485
Model 30—The Prettiest Roadster in America.....	1,485
Model 30—The Haynes "All-Weather" Cabriolet.....	1,750
Model 33—The Kokomo "Six"—a "light" seven-passenger Touring Car, 127" wheel-base, weight 3,050 pounds.....	1,550

THIS COUPON WILL BRING YOU OUR LATEST CATALOG:

WRITE NOW TO

THE HAYNES AUTOMOBILE COMPANY, 14 So. Main St., Kokomo, Ind.

Please send me your 1915 catalog with full particulars in regard to America's Greatest "Light Six."

Name..... Address.....

I expect to buy a car about.....

The Job That Brings Other Jobs

A well-laid Rex-tile roof is a long-lasting advertisement for the carpenter who did the work.

For appearance and durability it is unequalled. Rex-tile Shingles are wind and rain proof, because fastened at the butt-end and lapped back over the nails; impossible for them to flap, warp or curl.

Rex-tile
TRADE MARK
"The Scientific Shingles"

is the easiest roofing to handle—lighter by a third than most prepared shingles, smooth and always clean, even in the hottest weather.

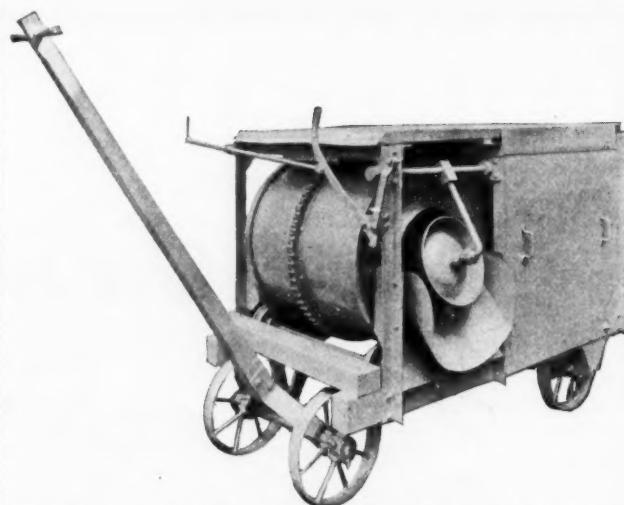
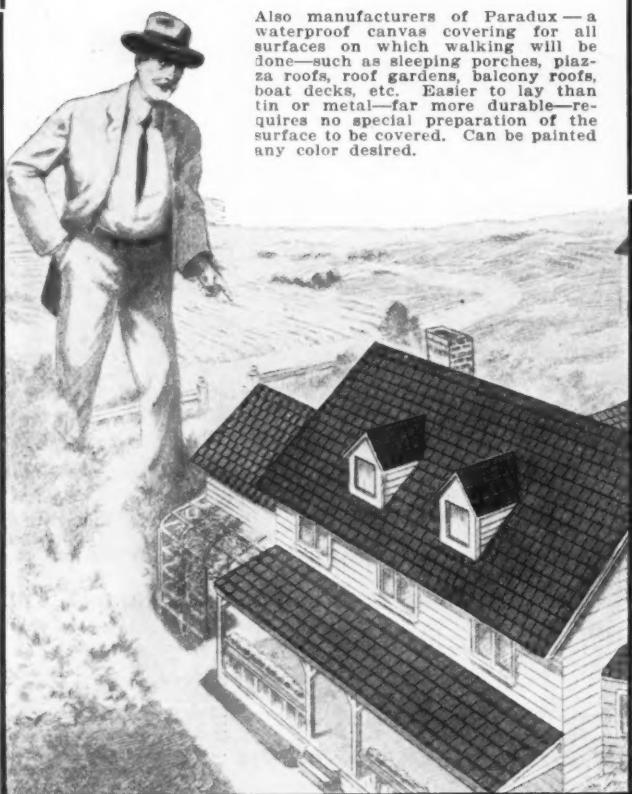
The carpenter and builder who lays Rex-tile roofs is safe from price-cutting competition. There is only one Rex-tile Shingle, because the turn-under fold for nailing—at bottom—no flapping or warping—nails perfectly covered—is patented, therefore sold at one price—a strictly exclusive material.

Will you write today for samples of these shingles, prices, and directions for laying?

Flintkote Manufacturing Co.

90 Pearl St., Boston, Mass.
67 Beaver St., New York, N. Y.
659 Peoples' Gas Bldg., Chicago, Ill.

Also manufacturers of Paradux—a waterproof canvas covering for all surfaces on which walking will be done—such as sleeping porches, plaza roofs, roof gardens, balcony roofs, boat decks, etc. Easier to lay than tin or metal—far more durable—requires no special preparation of the surface to be covered. Can be painted any color desired.



The Ransome "Bantam" Mixer Especially Designed for Builders.

hard use for several months by the F. W. Schwiers, Jr., Co., Engineers and Contractors, New York City. They write, "We can say without hesitation that it (the "Bantam" mixer) is a machine we have long been looking for: namely, a substantially built machine of one bag batch and sufficiently light to be readily moved on the job from place to place. It is very handy for jobs of moderate size, requiring an output of from thirty to fifty yards per day. The low charging feature appeals to us."

Investigate this machine. Write the Ransome Concrete Machinery Co., Dunnellen, New Jersey, or to their Chicago office in the Fisher Bldg., for full particulars. The price of the machine is reasonable. The W. E. Austin Machinery Co. are the Southern Sales Mgrs.; they have offices and show rooms at Atlanta, Ga., New Orleans, Houston, Dallas, Memphis, and Richmond. F. H. Hopkins & Co. are General Agents for Canada, with offices at Montreal, Winnipeg, and Vancouver. Call and see the Ransome "Bantam" or write for particulars.

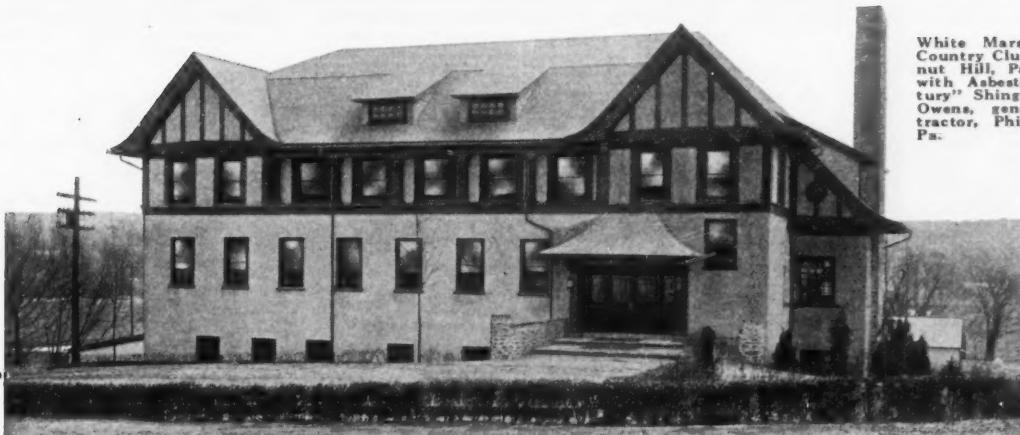


"Double Speed" Concrete Machinery

To turn out double the number of concrete blocks or cement bricks with the same number of operations means a big increase in the value of one's efforts. The man who is figuring on manufacturing concrete products, whether for his own use—as many contractors are doing—or to sell, is interested in the number of perfect blocks or bricks he can produce with a certain amount of labor within a given time. If for the same amount of labor one machine will turn out for him double the number of perfect blocks or even half again as many, the owner of the machine is the gainer.

Farsighted men remember these points when considering the purchase of any block or brick machinery. The quality of the product is of course the first essential point, and then comes the rapidity with which good blocks or bricks can be turned out.

The Northwestern Mfg. Co., of Sioux City, Iowa, are offering their line of block machines, brick machines and power tampers, with the claim that their output is double. In fact, the trade mark name of this equipment is the "Double Speed" cement machinery. The idea is that the block machine produces two blocks at once with the same number of motions as ordinarily required to turn out one block. It is pointed out that the work of filling the molds is of minor consequence, as the double mold is shoveled full just about as quickly as the one-block mold. And, except for the extra shoveling, the operations are just the same as though only one block was being made at a time. This would seem to



White Marsh Valley
Country Club, Chestnut Hill, Pa., roofed
with Asbestos "Century" Shingles, by J.
Owens, general contractor, Philadelphia,
Pa.

Asbestos "Century" Shingles

The Artificial Roofing Slate that Outlives the Building

ALL over the country we find a general feeling that good times have come. Business is looking forward to a most prosperous year.

One thing is certain. At a time when purchasers are most alive to the buying power of a dollar in value and service, we find our business growing, and growing fast. Asbestos "Century" Shingles are more firmly established than ever as a roofing material of unusual durability—with a national reputation for service and

value not enjoyed by any other natural or artificial roofing material.

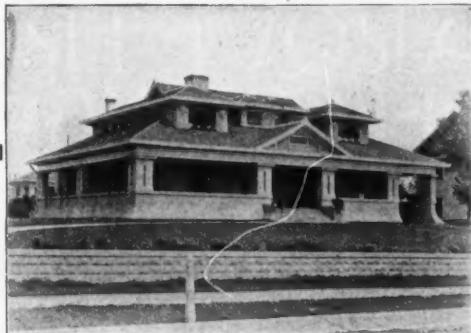
The mind of the property owner is wide open on the subject of better materials for his money.

We urge it upon every contractor to be ready to furnish his clients with Asbestos "Century" Shingles—and to feature the fact that he is prepared to give this highest value and service and roofing materials.

Write us for terms and trade prices.

KEASBEY & MATTISON CO., Factors
Dept. B, Ambler, Pa.

Branch Offices in Principal Cities of the United States



Cabot's Waterproof Cement and Stucco Stains

produce the most artistic rich-colored surfaces that are permanent and positively waterproof. Give your cement and stucco houses a distinctive appearance, the cost is exceedingly small and the pleasing result is well worth it. Cabot's Waterproof Cement and Stucco Stains are very inexpensive and one gallon will cover from 200 to 250 square feet. These Stains do not give painty appearance, but show the various colorings and texture of the surface. These Stains come in a variety of pleasing colors.

FREE Color Samples
together with Full Information about Cabot's
Waterproof Cement and Stucco Stains.
Send us your name and address.

Samuel Cabot, Inc., Mfg. Chemists
15 Oliver St. Boston, Mass.

Agents All Over the Country.

Suppose
you gave your
client a year's
supply of coal free---

That is precisely what you do when you install J-M Asbestocel Pipe Covering for his steam, hot water and heating pipes. You save him one-fourth of his coal bills every year, and in four years you will have saved him enough to pay for one entire year's supply.

J-M Asbestocel Pipe Covering

because of its CIRCUMFERRENTIAL instead of longitudinal construction, confines MORE MOTIONLESS AIR than any other low or medium pressure pipe covering.

Furthermore, the arch construction makes J-M Asbestocel STRONGER and MORE DURABLE than the long tube principle—will not crush down under weight.

Can be removed or replaced at will.

Write nearest Branch for Sample, Test Data and J-M Asbestocel Catalog No. 100.

H. W. JOHNS-MANVILLE CO.

Atlanta	Columbus	Milwaukee	Pittsburgh
Baltimore	Denver	Minneapolis	Portland
Boston	Detroit	Newark	St. Louis
Buffalo	Galveston	New Orleans	Salt Lake City
Chicago	Indianapolis	New York	San Francisco
Cincinnati	Kansas City	Omaha	Seattle
Cleveland	Louisville	Philadelphia	Toledo
THE CANADIAN H. W. JOHNS-MANVILLE CO., Limited	Montreal	Winnipeg	Vancouver
Toronto			2385A

give double the output at no extra labor expense.

The "Double Speed" brick machine works on the same principle. It turns out at one operation two rows of 8 bricks each.

A full assortment of face plates is offered. Special face plates also work on the block machine to form curving silo blocks.

The manufacture and use of concrete products have come to be well established in the building business. In many localities the demand is very active. Contractors and builders are more and more taking up this line of work and they do well at it. If you are interested at all in this line, write the Northwestern Manufacturing Co., Sioux City, Iowa, for their new twelve-page illustrated circular, giving full information about their equipment.



The H-L-F House Pricer

"You simply have to hand it to the Hewitt-Lea-Funk Co., for being on the job every minute," remarked a Minnesota carpenter to his partner the other day.

"Just look at this new idea of theirs—The H-L-F House Pricer.

"Suppose we want to figure on Henry Brown's house. Without waiting to take off bill of materials, we can sketch

Find Out Right Now How Much the House You Want Will Cost. Right Now is Good Time to Build It.

How long have you been planning to build a home of your own? Many people plan their lives and never build. Others put off building until their family has grown and the time is right. Right now is the best time to build. Building costs today for lumber are uncommonly low, and labor is cheap and plentiful.

The first step toward building a house is to find out what it will cost. The H-L-F House Pricer will tell you exactly what the cost would be to materials for your home—lumber, millwork, hardware and paint. This price is not an approximation, not a guess. It is based on the actual cost of materials and labor we guarantee absolutely, providing the cost of each item quoted to build the house, won't mean NO EXTRA.

Plane When You Buy Materials

No matter where you buy your lumber, you should build from plans. Instead of quoting prices, we will give you the cost of materials for your house—lumber, millwork, hardware and paint. This price is not an approximation, not a guess. It is based on the actual cost of materials and labor we guarantee absolutely, providing the cost of each item quoted to build the house, won't mean NO EXTRA.

IMPORTANT! Please Answer Questions Below:



PLEASE INDICATE WHICH STYLE OF ROOF YOU PREFER

Width (outside measure) _____ ft. _____ in.; Length (outside measure) _____ ft. _____ in. Check the rooms you want:

Living Room () Dining Room () Kitchen () Bed () Library () Music Room () Bed room (how many) () Bath room ()

Porch (how many and what size) () Will the outside be Wood () Brick () Brick Vessel () Concrete Block ()

If outside is wood, what sort of siding? _____ Or will you use shingles?

Do you want country house? _____ Story-and-a-half house? _____ Two-story house? _____

What height ceilings downstairs? _____ What height ceilings upstairs? _____

What height outside wall studs? _____

Do you want a basement? _____ How large? _____ Heating Plant? _____ What kind?

Do you want an attic? _____ If so, do you want stairs to attic?

Do you want a fireplace? _____ If no, to what room?

Will you build concrete foundation wall or set house on piles?

(Give name of doors as shown in catalog)

Do you want roof painted? _____ Stained with shingle stain? _____

What color will you paint the house? Body? _____ Trim _____

Do house to be in town or country? _____ When do you wish to start building?

Handy Sheet for Pricing Inquiries (greatly reduced in size.)

off on the one side of the sheet—the side that's divided up in squares—the floor plan desired.

"On the other side, we fill out the questions asked, such as what style of roof, outside finish, height of rooms, etc.

"Takes half an hour maybe to fix up the whole sheet. Then send it in and H-L-F will make you a detailed bid on materials.

"—and what's more important still, they will guarantee you

38 Times More Efficient Than The Best Building Paper

Costs no more than back plaster. Takes the place of back plaster. Can be applied to either new or old buildings. And it keeps cold out in winter—and heat out in summer. Makes actual saving of 40 per cent in fuel bills when applied according to our specifications. Linofelt is made of pure flax fibre quilted $\frac{1}{4}$ inch thick, between two layers of Kraft paper. Vermin-proof, odorless and sanitary.

LINO FELT

"Between You and the Weather"
(C) 1914, Union Fibre Co., Winona, Minn.

keeps out the chilly drafts that come in around the door casings, windows and around the base of walls. Write for free descriptive literature. Learn how Linofelt will help you build warmer, more comfortable buildings for your customers.

Learn About Lith

Insulation—too. Best insulating materials for cold storage plants, creameries, etc. Railroads specify Lith for their refrigerator cars. Write for valuable cloth bound book "Insulation for Cold Temperatures." FREE Address

Union Fibre Co.
118 Union Street
Winona, Minn.



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

Are There Any Questions You Want Answered? If so, Write Them Below. Use This Space Also to Give Any Additional Information



Everybody recognizes the superiority of parquet floors, but the expense has heretofore stood in the way.

Federal Parquetry Squares and Herringbone Strips do away forever with price objection.

You can keep busy this winter laying floors of Federal Parquetry; it is less expensive than a good carpet; costs little more than an ordinary strip floor; easy to lay. Full directions with each shipment.

Federal Parquetry is the highest grade of kiln dried, uniform, finely matched white Oak stock. In the usual sizes, or in any special size to order.

Write for Special Circular No. 16

FEDERAL PARQUETRY MFG. CO., Inc.

Offices:
175 5th Ave., New York

Mills:
Lexington, Kentucky

Agents wanted wherever we are not now represented

Corrosion Thwarted!



C.B. OPEN HEARTH
32 POUNDS COATING

Corrosion, the enemy of sheet metal, has been successfully conquered. If you specify for

Copper Bearing Open Hearth Roofing Tin

manufactured by this Company, corrosion will be robbed of its prey. The Copper alloy insures the stoutest resistance against corrosion.

This Company will exhibit at San Francisco



in the Palace of Mines and Metallurgy

American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES: Chicago Cincinnati Denver Detroit New Orleans New York Philadelphia Pittsburgh St. Louis
Export Representatives: UNITED STATES STEEL PRODUCTS COMPANY, New York City
Pacific Coast Representatives: UNITED STATES STEEL PRODUCTS COMPANY, San Francisco, Los Angeles, Portland, Seattle

Stained Shingles Look Better and Last Longer

We select Cedar Shingles, thoroughly seasoned and dried, treat them scientifically, so that each shingle is thoroughly preserved against dry rot, worms and decay. We use finest earth pigments (no aniline dyes) ground twice in Linseed Oil, then mixed with Creosote Oil. The result is

"CREO-DIPT" STAINED SHINGLES

17 Grades. 16, 18 and 24-inch. 30 Different Color Shades.

We are responsible for both quality of shingles and stain. They last twice as long as brush-coated or natural wood, cost less and save all the muss of staining on the job. Our exclusive process insures even stains and even colors that will not fade or wash out in streaks.

Write for Sample Color Pad showing Stains on Wood, and our Catalog that shows houses in all parts of the country, built by prominent architects.

Standard Stained Shingle Co., - - No. Tonawanda, N. Y.



Home of Architect
James H. Ritchie,
Newton Center,
Mass.

This excellent illustration of the use of "Creo-Dipt" Shingles is especially gratifying since the Architect repeatedly specifies their use.

He remarks that his confidence in "Creo-Dipt" Shingles is especially strong since on his home 18-inch Perfection Shingles on the side walls were laid 8 inches to the weather and show no signs of curling, as is often noticed in other shingles.

Indestructible Roofing



Cover your buildings with Montross Metal Shingles and save yourself time, money, worry. Economical in price and easily laid. Our booklet, "The Best Roof Under The Sun" will make you a roofing expert. Free on Request.

AGENTS—MAKE MONEY

On our profit sharing inducement to all reliable live wire dealers. Write for information, how our agents are growing rich handling Montross Metal Shingles. Big demand. This is your chance. Don't overlook it. Testimonial letters and affidavits cheerfully given.

MONTROSS METAL ROOFING CO., 102 Erie St., CAMDEN, N. J.



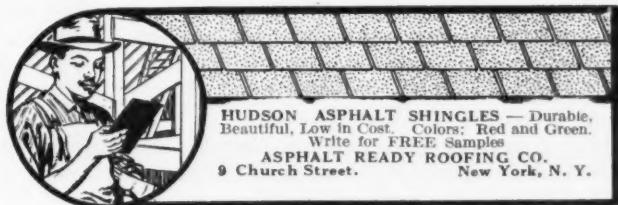
Make Money Faster and Easier than You Ever Did

before, by handling W. & C. Metal Shingles. We have a special selling proposition to make to one live man in every town in the country, and its acceptance puts the acceptor in a position to make a great deal of money easily.

Walter's and Cooper's Metal Shingles

are proof against fire, wind, storm, snow, rain, lightning, rust and decay; will not curl, check, split, rot, crack, blow or drop off, and are long lasting. Cost no more than wood shingles. Ask for catalog and selling plan.

National Sheet Metal Roofing Co., 339-345 Grand Street, Jersey City, N. J.



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER



INTERNATIONAL Asphalt Shingles

Durable—Rich in Color—Fire-resisting—Economical

International Asphalt Shingles are a superior Shingle. Made of best materials, by a special process, they guarantee the maximum of service. They will resist heat, cold, fire. They make durable, water-tight roofs.

Made in standard size, 8" x 12 $\frac{3}{4}$ ", carefully packed in cartons. Easiest to lay—any carpenter can lay them.

A FULL-SIZE FREE SAMPLE

We will send you a Full-Size FREE Sample, postage paid, if you send us your name and address.

INTERNATIONAL ROOFING COMPANY 5305-21 So. Western Ave., Chicago



Slating Shingles

is a popular "winter sport" of carpenters where the weather permits. You do not have to "lay bare" the garret. If the roof frame is in good shape, and the shingles are simply "dead", you can put the slate on right over the shingles.

Here is a good chance for you to do some winter jobs and keep your men busy.

Of course the slate to use is

Genuine Bangor Roofing Slate

Brings you a good profit. Brings you more trade. It helps to improve the character of your customers. You will find that more of them will be glad to pay you more for putting on a roof that gives more service and costs less money in the end.

Send the attached coupon for some interesting literature that means more money in your bank account. Do it today—now—before this slips your busy mind.

GENUINE BANGOR SLATE CO. :: **EASTON, PA.**

GENUINE BANGOR SLATE CO.
Easton, Pa. January, 1915.

Please send information.

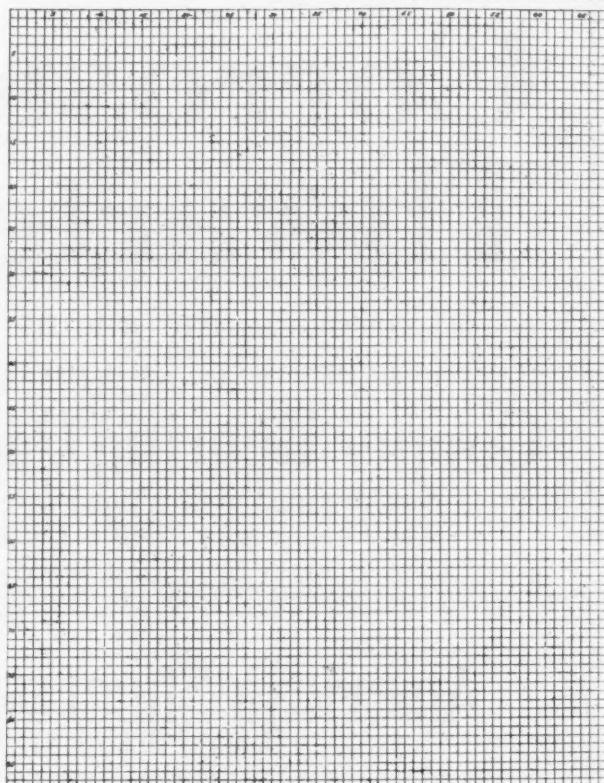
Signed.....

Address.....

City..... State.....

H-L-F HOUSE PRICER

Each Square Represents One Foot; Answer Questions on Back of Sheet



Reverse Side of H-L-F Sheet, Very Much Reduced in Size.

to supply enough of each material, so you won't have to worry about extras."

If you haven't seen the House Pricer about which this Minnesota carpenter talks so enthusiastically, you can get one for the simple effort of writing and asking for it. The address is Hewitt-Lea-Funck Co., 308 Crary Bldg., Seattle, Wash.



The Smith Mixerette

The Smith Mixerette is the latest addition to the non-tilting line of Smith mixers. It is the answer to a demand which has manifested itself during the past two years for a light, portable and inexpensive mixer of small capacity. The Mixerette, holding 5 cubic feet of dry sand, stone and cement, or 3 cubic feet of mixing concrete, will produce 5 cubic yards of mixed concrete per hour—just what is needed by contractors for the small concrete jobs.

While the Smith Mixerette embodies Smith quality and retains the high standard of construction and design, which were in evidence in the big Smith mixers used on the Keokuk dam, at Arrowrock, on the sea wall and causeway at Galveston, on the Key West extension of the Florida East Coast Railway, on the New York aqueduct, and elsewhere, it likewise embodies new features which are bound to make it as famous as its big brothers.

Two features stand out very prominently. The main drum ring and driving pinion are entirely enclosed and protected from the finest particle of dirt or dust. The drum ring itself combines a large gear, encircling the drum, and two machined tracks. The dust-proof casing which covers the drum ring has two machined surfaces which fit snugly over the two machined tracks encircling the drum. This forms the bearing surface up which the drum revolves. This sliding bearing eliminates main rollers and other supporting and driving mechanism. The lower portion of the casing coming down to the truck sills, forms a supporting pedestal for the drum.

Quality

It means an end to ROOFING EXPENSE, ROOFING DANGER and ROOFING TROUBLES.

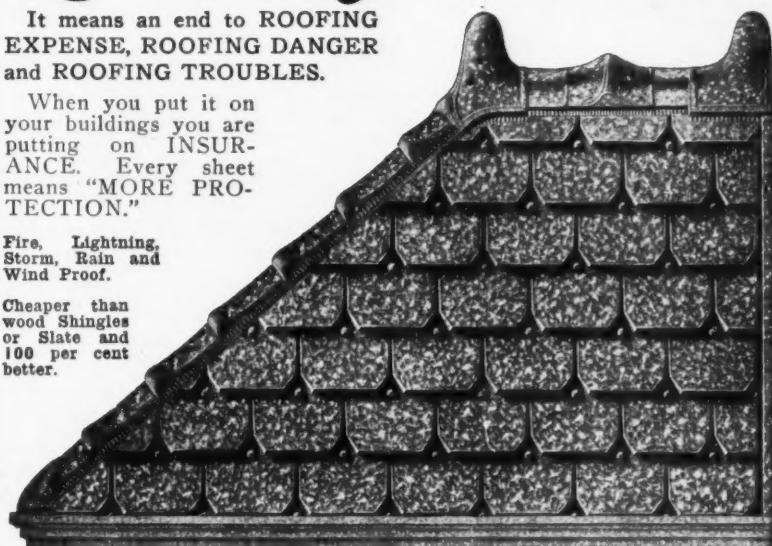
When you put it on your buildings you are putting on INSURANCE. Every sheet means "MORE PROTECTION."

Fire, Lightning, Storm, Rain and Wind Proof.

Cheaper than wood Shingles or Slate and 100 per cent better.

The Distinguishing Trade Mark

DICKELMAN EXTRA Metal Tile and Shingles



THE MOST BEAUTIFUL ROOF IN THE WORLD.—Ornamental and Lasting.

Many different designs in painted tin, galvanized or copper. Easy to lay, economical, beautiful. If you are a builder and contractor, let us know, for we have a profit-sharing arrangement which we make with builders, and it would pay you to ask us about it.

The Dickleman Manufacturing Co., ^{Department} "C" **Forest, Ohio**

Consist of 99.9% pure, open hearth iron. This combined with perfect galvanizing, enables us to give you a roof that will last! Over a quarter century experience is back of all our products, which include corrugated, V-crimped and roll Roofing besides shingles and other metal specialties.

DEFIES THE DESTRUCTIVENESS OF TIME

Here is an investment that pays unusually large dividends to

Carpenters and Builders

Galvanized Shingles can be laid by a Carpenter or Roofer quicker than any other material. No soldering required, just nails; the lock and flange take care of the rest. Under no condition can any of our DICKELMAN EXTRA Metal Shingles or Tile ever blow off.

No little bills to pay for Soldering and Painting on account of Leaking. Once on, on for a life time.

Reduce the cost of insurance, being both fire and lightning proof. Lightning was never known to strike or injure a building covered with a metal roof.

Can be successfully laid by any workman who will read and follow our printed instructions. No solder is used; only a pair of snips and a hammer are needed.

Write for FREE CATALOG.

Offers many valuable roofing suggestions. Explains "Dickelman Quality" and guarantee.

SNOW and ICE
Can't Harm a Roof of
G. F. T.
ROOFING SLATE

Neither can extreme heat or fire. It's the one roofing material that guarantees permanence.

No Upkeep Costs

Most roofings on the market have to be frequently repaired and renewed. You can figure up how much this comes to when a house is twenty years old. A Slate roof requires no repairing and will last as long as the building. Slate is by far the best appearing roof, harmonizing with any style architecture. If you are looking for Beauty, Economy and Durability specify Genuine Franklin Tunnel Slate.

A FREE BOOKLET ON SLATE

Will be sent postpaid to all Contractors and Builders sending us their name and address. It contains valuable information about Slate and how to lay it, etc. Write for your copy TODAY.

SLATINGTON SLATE CO.
Slatington, Penn.

An Opportunity for Contractors

Watchful waiting does not develop business

Get into the habit of going after business, of asking for it. That habit has made the world's commerce. The big merchant is proud, not ashamed, of his habit of asking for trade.

Suggest to your customers that they order **Maple, Beech or Birch floors** put in this winter.

Scores of residences and business structures in your community need new floors and in many cases a suggestion from you will bring an order.

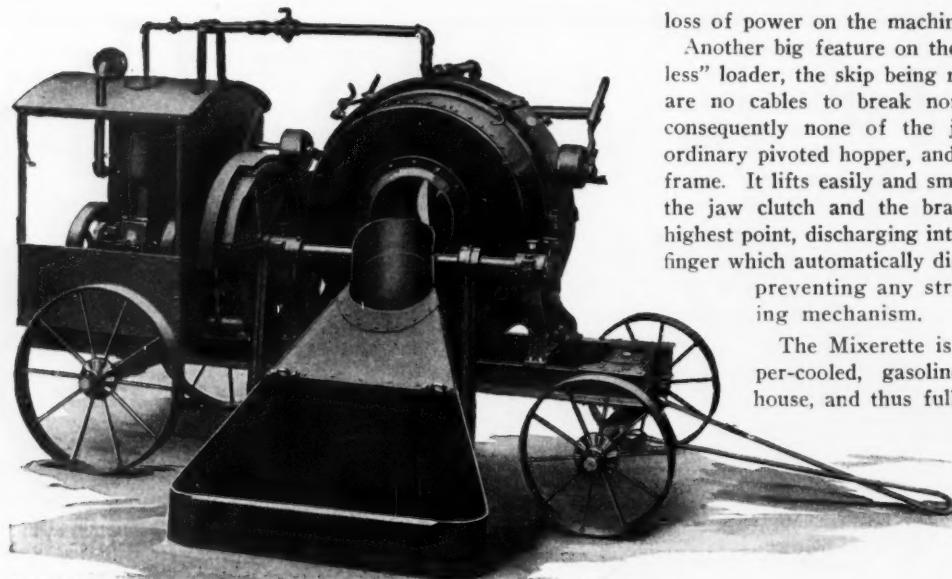
Maple, Beech and Birch floors improve the appearance and increase the value of all buildings in which they are used. They lighten the work of the housekeeper.

Send for your copy of "More Work for the Winter," which contains instructions for getting the flooring business.

Maple Flooring Manufacturers Association.

Stock Exchange Building,

Chicago, Illinois.



T. L. Smith Co.'s New Small Mixer, Called the "Mixerette." Note Ropeless Side Loader.

The dust-proof casing is fitted with pressure grease cups so that the machined surfaces can be kept cool and clean at all times. This excludes the dust and doubles the life of the mixer itself. This new feature will appeal particularly to the many contractors who have continually had trouble with their main roller tracks developing flat spots and the main rollers themselves wearing out rapidly, thus causing a wobbly, uneven motion of the drum which will rapidly wear out the driving pinion and at the same time cause a great

loss of power on the machine.

Another big feature on the Mixerette is the famous "ropeless" loader, the skip being raised by means of gears. There are no cables to break nor sheaves to get out of order consequently none of the jerking, twisting motion of the ordinary pivoted hopper, and no binding strain on the loader frame. It lifts easily and smoothly, being easily controlled by the jaw clutch and the brake. When the skip reaches its highest point, discharging into the drum, it strikes a projected finger which automatically disengages the hoisting clutch, thus preventing any straining or damage to the hoisting mechanism.

The Mixerette is operated by a high-priced, hopper-cooled, gasoline engine, enclosed in a steel house, and thus fully protected against any damage.

The drum is equipped with three deep, scoop-like blades, which in connection with the long, steep angle discharge spout, insures an exceedingly rapid discharge.

The equipment as shown is light and portable, weighing only 2500 pounds.

For the contractor who does not want to invest the money in a power charger equipment as shown, the Smith Company furnishes the Mixerette equipped with gated batch hopper. Such a rig weighs only 1875 pounds, and with its low feed level of 3 feet 10 $\frac{1}{4}$ inches, is an equipment which will appeal to a great many contractors.

Special booklet illustrating this machine will be furnished by the T. L. Smith Company, 3123-AA Hadley St., Milwaukee, Wis., on request. Ask for catalog No. 116-AA.

The Permanent Roof

In the Cortright roof there are no exposed nails to rust off, no chance for wind to get under the shingles and blow them away. They overlap and interlock so that no rain, snow or sparks can penetrate. Thus a Cortright Roof remains unchanged through the passage of years, and requires no attention beyond an occasional coat of paint.

The first cost is little if any more than a good wood shingle roof, but it is then perfect, permanent protection without maintenance expense which make

Cortright Metal Shingles

so much cheaper in the end.

Cortright Metal Shingles are economical enough in first cost to enable you to meet the keenest competition, and their superior quality with nearly 30 years of success ensure satisfaction to your client, and future business for you. Your ordinary workmen can lay them, no soldering or tinnings' work to do, no skilled roofers necessary. Your share of this season's profits in Cortright Shingles is waiting for you. Write for Contractors' and Builders' propositions today.

CORTRIGHT METAL ROOFING CO.
PHILADELPHIA & CHICAGO.

THE NOVO

Gas and Oil Engines for Pumping, lighting, hoisting and power service.

1 1/2 to 400 H.P.

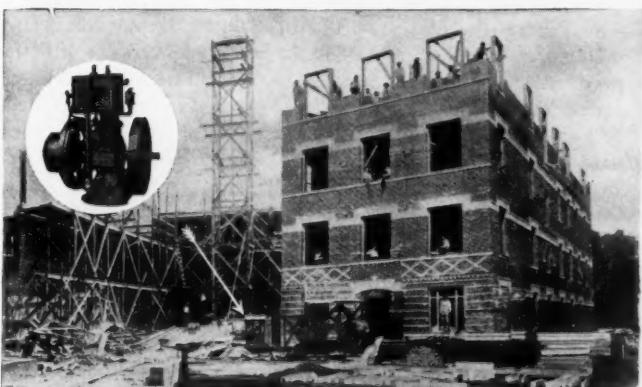
THE NOVO GAS ENGINE CO., SPRINGFIELD, OHIO

**Build With
ALPHA THE GUARANTEED
PORTLAND CEMENT
and it will be
EVERLASTING**

ALPHA PORTLAND CEMENT CO.
General Offices: Easton, Pa.

Branch Offices:

New York, Hudson Terminal Bldg. Philadelphia, Harrison Bldg.
Chicago, Marquette Bldg. Buffalo, Builders Exchange
Boston, Board of Trade Bldg. Baltimore, Builders Exchange
Pittsburgh, Oliver Bldg. Savannah National Bank Bldg.



The "New Way"

Direct Cooled Engine for the Contractor

The cooling of these engines is absolutely guaranteed—scores of thousands of satisfied users can testify to this. Then why bother with troublesome water-cooled engines which require almost constant attention. You buy machinery to save labor-cost. Unless the power on your machines is reliable, is simple in construction and can be operated by the average laborer—will stand up for an all-day run under full load, with minimum of care and attention, you soon lose your expected gains.

That the "NEW WAY" fills these requirements has been proven over and over thousands of times on all kinds of machinery and under all conditions.

Write for Catalog Y

**THE "New Way" MOTOR COMPANY
LANSING, MICHIGAN, U.S.A.**

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER



**A Low
Bid Based
on Novo Power
Is a Safe Bid**

The Novo Engine is a miracle in efficiency. Contractors in every kind of work—the big, grueling jobs and the small, simple building jobs as well—find the Novo the surest and safest way to beat close figuring.

Take this case. Here is "dollar-and-cents" proof. To land his job, one contractor had to cut out manual labor at every possible point. It was more than a question of men and machines. More than a question of power. The question was one of **Reliable Power**. For instance, instead of wheeling concrete up inclines, he rigged up a Novo Hoist, slipping rings over the handles of the barrows and catching the wheels with hooks, and elevated his concrete and brick to the right level, saving the labor cost of eight men.

The Novo never stops working—it sets a stiff pace—never falters until the job is done. Novo power is reliable. It never disappoints. That's why it pays to put Novos on the payroll.

Novo Engines and Outfits are rapidly replacing all other forms of power on construction work.

Novo Reversible Hoisting Outfits.
Novo Non-Reversible Hoisting Outfits.
Novo Double-Drum Reversible Hoist Outfits.
Novo Suction and Force Pumping Outfits.
Novo Centrifugal Pumping Outfits.
Novo Diaphragm Pumping Outfits.
Novo Saw Rigs.
Novo Air Compressor Outfits.

When requesting our booklet, "Reliable Power," please use your firm letterhead.

NOVO ENGINE CO. 445 Willow Street, Lansing, Mich.
Clarence E. Bement, Secretary and Manager

NOVO
REG. U.S. PAT. OFF.
**ENGINES
AND OUTFITS**

Novo Engines can be furnished for operating on gasoline, kerosene, alcohol or distillate.

"The Engine for Every Purpose"

OUR AGENCIES ARE ALWAYS BUSY

Diamond Flexible All Metal Weather Strip

Has built up a permanent, profitable business for Contractors and Carpenters in all parts of the country. If you have not secured an agency get busy at once. Some fine territory still open. The thousands of satisfied users testify to the superiority of our strip.

Diamond Flexible Metal Weather Strips

are easier to sell than the old style rigid strip because they are so much better in use—and it doesn't take much argument to convince owners why they're so much better. Carpenters and Builders can develop a big business selling these. \$3,000 to \$5,000 a year is quite possible, because every purchaser of Diamond Strips will be so satisfied that he will gladly boost them to other owners and tenants.

Diamond Weather Strips mean so much more added comfort that no prospective purchaser will begrudge their small price.

Every Door and Window Needs a Diamond

Where Diamond Strips are used the windows don't stick or bind, and the sash can be removed when necessary without displacing the Flexible Weather Strip. Another thing is that all openings are made air tight and wind, dust moisture and noise haven't a chance to get in. They have been known to effect an economy of from 20% to 40% in fuel alone, because less heat is required in rooms protected by Diamond Weather Strips.

And it's not only residences that use them. Large public buildings—schools, churches, hospitals, etc., are always in the market for these products. We make all kinds, suitable for all styles of windows and doors.

Being made of zinc and highest grade spring bronze, they never rust, and last for years. Can be put in old buildings as well as new ones.

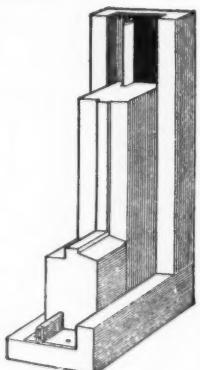
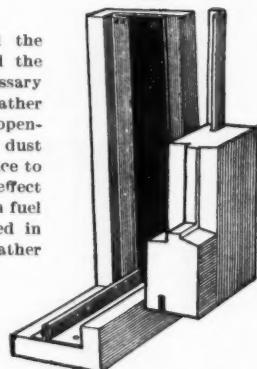
Description of Cuts

Top cut—The dotted lines show the flexible and adjustable features. Center cut—This section shows how sash and strip can be removed at the same time. Lower cut shows the Diamond Metal Weather Strip in place.

Write today for our Booklet Diamond Way of Practical Weather Stripping.

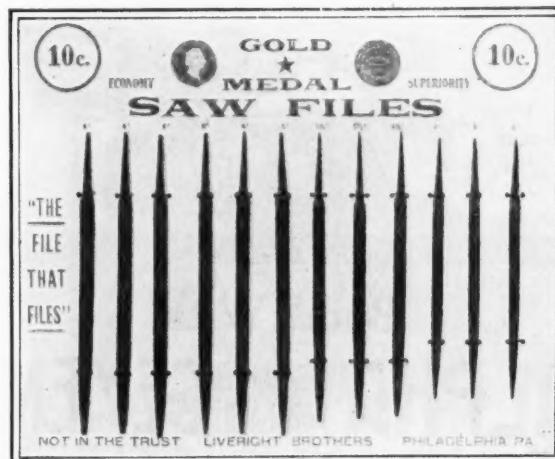
It's of Interest to Everyone Who Owns a Building.

The Diamond Metal Stamping Co.
626 Kerr Street . Columbus, Ohio



"Blue Ribbon Special" Saw Files

The accompanying illustration shows the file display that can now be seen in almost all first-class hardware stores. These are the "Blue Ribbon Special" Saw Files in three sizes—5, 5½ and 6 inches; and in four shapes—slim taper, extra slim taper, slim blunt, and extra slim blunt. These files are manufactured by Liveright Brothers, Philadelphia, Pa. These



Display of Liveright Bros.' Files.

display boards are well liked by hardware men as well as by their carpenter customers, as the range of size and shapes is clearly shown, making it easy to select exactly the kind of file best suited to the particular work at hand.

There is no tool more important than the file. A cheap file is an abomination. A thoroughly good file that is a pleasure to use costs only a very little more.

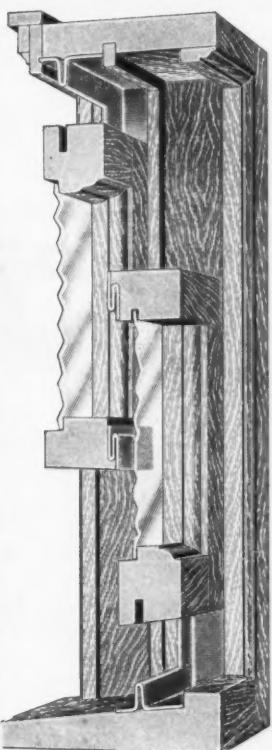


An Instructive Book—Write for a Copy

In general there are two points of interest concerning any building material. First, what the material is and how it is produced; and second, how it is used in modern building construction. The first of these is very commonly neglected or kept in the back ground by manufacturers when they prepare their advertising literature. Yet it is a well known fact that carpenters and builders take a good deal of pride in knowing all about the materials they work with. Of course it is important and essential to know the proper uses for a material in building work, but there is a satisfaction in knowing more than just that.

In looking over the new booklet recently prepared by Mr. Christine for the Arkansas Soft Pine Manufacturers' Association, we were impressed with the thought that here is information that our readers will really appreciate. The book is entitled, "Arkansas Soft Pine an Architectural Aid." By means of very clear photographs, some of them in two colors, the reader is first taken to the forest and shown the typical stand of virgin soft pine trees. Logging processes are then disclosed, and then the timber in the mill and lumber storehouse. We all like to look at pictures and when they are instructive in regard to the materials of one's business, the enjoyment becomes a profit also.

And then the second aspect of interest is the utilization of Arkansas Soft Pine in modern building. Some large size views show details of grain, figure, and wood structure. It is evident that the variety of markings possessed by Arkansas Soft Pine is endless. No two pieces are marked exactly alike; but there is a harmony of design through all that is very pleasing. Eight pieces of wood are printed in colors to reproduce exactly the effect of Arkansas Soft Pine stained for interior trim. There are also a number of photographs of living rooms, dining rooms, libraries, etc., finished in



MR. CARPENTER AND BUILDER:

Do you wish to substantially increase your yearly income?

GOOD! Now we can talk business

PERHAPS in your town or county where you are acquainted and now doing business, our metal weather strip is not represented.

WHY NOT TRY to secure the exclusive right of furnishing and installing our metal weather strip in your territory.

YOU buy the strip on the per foot basis and install same at a handsome profit.

Our weather strip is the easiest sold on the market

Because—It is the strongest and gives greatest protection.

The meeting-rail strips are double nailed and tight.

Our spring bronze is extra heavy gauge and straight. NO KINKS.

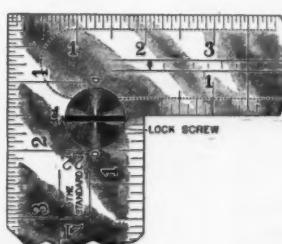
The All Brass Threshold has conquered the door bottom problem.

When writing for our proposition—tell us something about yourself, also territory desired.

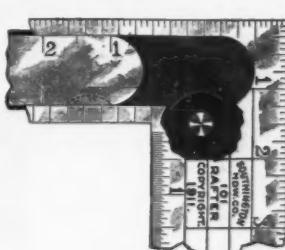
NIAGARA METAL WEATHER STRIP CO.

737 Main Street

BUFFALO, N. Y.



The "STANDARD" Take-Down-Square



is the most satisfactory take-down-square that has been produced; satisfactory to the user because when "locked" the tongue cannot slip; easily and quickly taken apart or put together.

Ask your nearest dealer about it—But send for our NEW BOOKLET describing it.

The Southington Hardware Co.

SOUTHTON, CONN.

FRESH AIR AND PROTECTION!



The Ives Window Ventilating Lock

A Safeguard for Ventilating Rooms, allowing windows to be left open at the top, the bottom, or both top and bottom, with entire security against intrusion.

Descriptive circular mailed on application.

THE H. B. IVES CO.

SOLE MANUFACTURERS

NEW HAVEN

CONNECTICUT

Grandfather's Clock

Build Your Own With Our Help

With the blue prints, instructions, finishing material, etc., we furnish, any handy man can build his own Grandfather's Clock. We sell you the works, dial, weights, pendulum, and everything you need at prices so low as to surprise you.

Works complete, \$5.00 each; others with chimes, all prices.

Here's winter work you can turn to good profit. Make duplicates for your friends. Our designs are clear cut, attractive and salable.

Write for our free offer on the drawings, etc.

Clock Company

1655 Ruffner St. Philadelphia, Pa.



Arkansas Soft Pine. These contain a wealth of ideas and good suggestions for architects and builders.

All the way through the text matter is of the kind that is easily and gratefully read. It gives the information one wants to know.

Arkansas Soft Pine is becoming well established as a satisfactory wood for both exterior construction and interior finish. Its moderate cost is decidedly in its favor. Its easy working qualities make it popular with carpenters and builders, and the beauty and richness of the grain are pleasing in the finished work. A study of this new booklet will open up larger fields of usefulness for this good wood. Write the Arkansas Soft Pine Bureau, 1738 Transportation Bldg., Chicago, for your free copy. They want to send you one.

also, not being of iron, it cannot rust. Aluminum is light in weight, yet strong and durable. It is a rust-proof metal.

This level illustrated is 30 inches long. It contains four plumbs and two levels, so that it can be used either end or edge up. Three other sizes are furnished as well, 18 and 24 inches long, for machinists' use, and 42 inches long for masons.

The Cadillac Tool & Sales Co. have put into these levels their experience and knowledge of twenty years. They embody all the features required by the most exacting



The Popular Cadillac Aluminum Level.

Cadillac Aluminum Levels

After twenty years' experience making high-grade levels the Cadillac Tool & Sales Co., of Detroit, are offering a line of aluminum levels. They say that these are the finest levels it is possible to make. Aluminum is the ideal material for levels, and has been in use long enough for this proposition to be no longer an experiment.

Thousands of the best mechanics in the United States and Canada have given the Cadillac aluminum level enthusiastic endorsement. Not being made of wood, it cannot warp;

mechanic. The spirit glasses are covered by plate glass, protecting them from dust, dirt and water. You can pick this level up in any position, as it is always ready for instant use. Their method of setting the spirit glasses and of using fine, bright brass wire for the center marks, makes this a great level to use in dark places.

A good mechanic takes pride in the looks of his tools. The Cadillac aluminum levels are ornamental as well as useful.

Write today to the Cadillac Tool & Sales Co., 716 Chene St., Detroit, Mich., for descriptive circular and price list. The Cadillac people desire to deal direct with our readers, saving you a retailer's profit. They pay all transportation charges on their levels.

THE TRIED TOOL

Whatever bit you buy, you buy it on faith. All you can SEE is the pattern and the finish. You cannot determine the accuracy of its making without delicate instruments. You cannot judge the quality of its steel without laboratory tests. You buy on faith.

Use alone is the mechanic's test of a tool. Every year of the thirty-odd years that the Irwin Bit has been in use has been a year of test. That is the foundation of the users' faith in Irwin Bits.

The Irwin Bit isn't a bit of a certain pattern—although it is the original solid center bit. It is the bit of a standard of quality—quality in material and quality in workmanship. The Irwin twist is not difficult of imitation. But the Irwin heads have baffled reproduction and the Irwin special crucible steel has defied simulation, through all the years that the Irwin Bit has held its place as standard.

The Irwin Auger Bit Company
Wilmington, Ohio



**Sure!
She's a
Simonds**



HYPCO ASEPTIC CLOSETS

Right Now Are Earning
Carpenters and Builders

BIG PROFITS

They can do the same for you. Now is just the time—now is when their convenience is self-demonstrating. These Closets sell on sight in communities without sewerage. Work is slack with you, grab this opportunity, you can make a neat little sum this winter acting as our Agent in your Locality.

**You Can Do It. Get In
Touch With Us Today**

No Capital required—they sell themselves. Write to us
Now.

THE HYGIENIC PROMOTION CO., (Inc.)
279 John R. Street - - - DETROIT, MICH.



The rapidly increasing use of cement for garages, barns, corncribs, stables and other buildings has created a big demand for

WAGNER Studding Sockets for Cement Floors

—the easiest-to-use, most durable and best all around way of anchoring studding in cement floors.

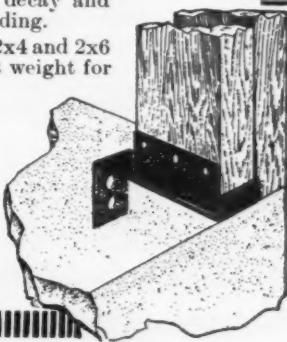
Set into the cement while fresh, they are tightly secured and hold with a grip of steel. Protect ends of studding against decay and insure long life to the building.

Made in two sizes—for 2x4 and 2x6 or 2x8 studding; also light weight for partitions.

Your Dealer Can Supply You

We fill orders direct where we have no dealers. Write today for descriptive folder.

Wagner Mfg. Co.
Dept. F CEDAR FALLS, IA.



Carpenters—

Here's an Opportunity to Make Money in Winter

Here's something right in your line—a Chemical Closet that you can sell to a home builder cheaper than a wooden privy and make a bigger profit for yourself. Here's something you can sell at odd times or turn over to your son or your foreman to sell.

RO-SAN CHEMICAL CLOSET

An absolutely sanitary, odorless indoor closet that may be placed anywhere in the house. Abolishes the germ-breeding, outdoor vault. A comfort and a convenience where there is no sewer connection. Germs killed by chemical. Easily emptied as the ash pit of a stove.

AGENTS WANTED
We want one live carpenter-contractor in each town to act as our agent. Good profits for little work. We help you sell them. Write today for complete details.

**ROWE SANITARY
MFG. COMPANY**
201-C SIXTH STREET
DETROIT :: MICH.

Ask about the Ro-San Washstand. Running Water (Hot or Cold) Without Plumbing.



**GRAINED
CEIL-BOARD**

**Write
for
Free
Booklets
and
Samples
of**

Carey Ceil Board
The Scientific Wallboard

The booklets tell you of profitable business during the dull season. The sample will convince you that the booklet is most conservative in what it promises. Cell Board is furnished in Plain Gray, Plain Tan, Quartered Oak and Circassian Walnut finishes and offers unlimited possibilities for winter work for the carpenter. Finish the unlined attics in your town—cover up the cracked plaster walls—put in beautiful wainscots of Cell Board in hardwood finishes—make shirt waist boxes, clothes presses, etc., in Oak or Walnut finish. A thousand uses for Cell Board while outside work is at a stand still and it costs no more than the ordinary wallboard.

The Philip Carey Company 1021 Wayne Ave.
Lockland, Cincinnati, O.
Branches in all principal cities.



This Window

is keeping out the cold, wintry blasts because it is equipped with

**PULLMAN ALL METAL
WEATHER STRIP**

It is the kind of weather that demonstrates the superiority of PULLMAN ALL METAL Weather Strip.

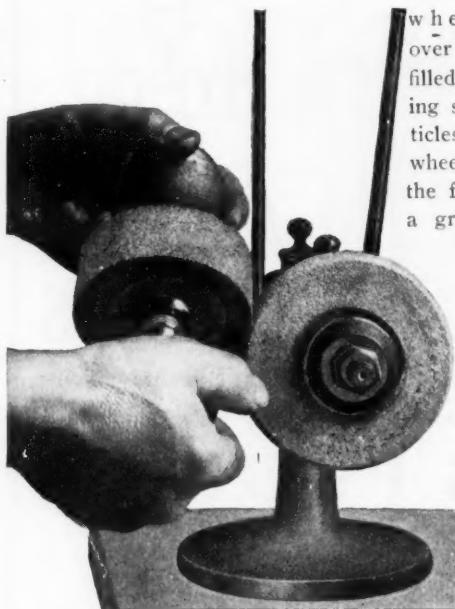
Good Business Right Now

Winter is here and people realize the necessity of Weather Strips.

Get in touch with us today and we'll make you our Local Agent, giving you Special Discounts. You can realize a handsome profit on it, and the installation, too.

Hurry—Write Now!

Pullman Metal Weather Strip Co.
22 York Place, - - York, Pa.



Witherby Chisels

While the majority of tool manufacturers make it a practice to guarantee their tools, hardware dealers are often reluctant to make good on the guarantee unless they are absolutely sure of the points it covers. The Winsted Edge Tool Works of Winsted, Conn., in sending out their guaranteed line of "T. H. Witherby" chisels, gouges and draw knives, insist that their guarantee covers absolute satisfaction to the user. They say to the dealer, "If a tool of our make is



"Witherby" Bevel Edged Leather Tipped Pocket Chisel.

returned to you as unsatisfactory, do not hesitate to replace it or refund the money as our guarantee is positively without restriction and the retailer is urged to use it in that way."

It is very certain that the Winsted Tool Works are positive of the quality of every tool stamped "T. H. Witherby," otherwise they could not give such a guarantee. As a matter of fact, we understand that every one of their tools is inspected and tested at least five times during the process of manufacture.

The accompanying illustration shows their bevel edged leather tipped pocket chisel. The Winsted Edge Tool Works specialize in carpenters' chisels, gouges and draw shaves. They have been manufacturing these since 1827. They have a very interesting catalog illustrating their complete assortment of sizes and styles which they will mail on request.

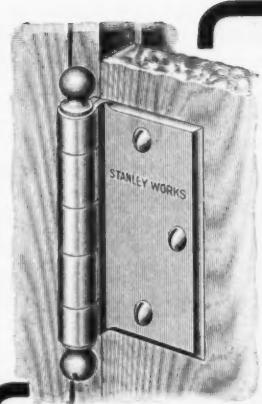
Metcalf Emery Wheel Dresser

The importance of keeping grinding wheels true at all times should be constantly kept in mind, for it is difficult, if not impossible to get good results when grinding wheels are not properly cared for. After a short time the face of an emery

or carbondum wheel will glaze over as it becomes filled up from grinding soft metals. Particles cling to the wheel, gumming up the face. Also, after a grinding wheel is used for some time it gets out of true.

The Metcalf Emery Wheel Dresser has been developed by the Heald Machine Co., Worcester, Mass., and is said to be a veritable wizard for truing down and shaping grinding wheels of all kinds. Until one has seen this dresser in operation it is hard to understand how it can do the work so easily and well.

The Metcalf Dresser consists of two heavy knobs at the ends of a short shaft with an abrasive wheel of special grade and grit mounted on a sleeve between them. The knobs are of iron, to give weight, and are held in the hands when the dresser is in use.



Stanley Ornamental Surface Butts No. 165

*Save Time and Labor
and Please the
Owner*

The Ornamental leaf screws on the surface of the door, saving half the time of mortising. The slotted ball tip can be unscrewed and the pin reversed so that the butt can be used on either right or left hand doors. Packed with **Oval Head Screws** which fit into the countersink and hold the door firmly. Round head screws will not hold the doors securely in place and if not screwed in straight will cause trouble. The screw head is liable to break or the head will meet the butt on an angle so that it is impossible to draw the butt tight to the door. This makes an unsightly appearance.

The handsome, dignified, **Beveled Edge** design harmonizes with the popular designs of hardware. Made in all finishes.

Write for Booklet "A" describing this and many other lines of "Stanley" Quality Hardware.

The Stanley Works
New Britain, Conn.



The Duty of a VENTILATOR

is to keep the air in a building sweet and pure. Good air is essential to the good health of both human beings and animals.

ROYAL VENTILATORS

ventilate most efficiently. The prices are right, too. We are Ventilator specialists. Our Ventilators are used the world over. WHY? Because Builders and Architects know that Royal Ventilators positively Ventilate and are made of best materials, combined with good workmanship. Royal Ventilators are durable and will give the maximum amount of service.

We make Ventilators in all styles. A Ventilator for every type of building and for every Ventilating Problem. Let us place our complete line before you by sending you our catalogue.

Royal Ventilator Company
417 Locust St., Philadelphia, Pa.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

You Can't Beat This **KEEN KUTTER** Wrench

This Keen Kutter wrench is put together to stay. It is made of flawless tool steel of *first quality*. The bar is forged in *one solid piece* from end to end and the handle is part of the bar. There is *no nut* at the end. The selected beechwood gripper handles are fastened to the shank with two steel rivets. No strain can work these handles off nor loosen them. This Keen Kutter wrench stays with you. If it fails to stand the roughest usage that a wrench can get, the dealer is authorized to refund the money.



Black
Jack
Wrench
KB10
Price
\$0.75

Send for
our Home
Furniture
Design
Booklet
No. L-876.

"The Recollection of Quality Remains
Long After the Price is Forgotten."
Trade Mark Registered. —E. C. SIMMONS.

If not at your dealer's, write us.

SIMMONS HARDWARE CO.

St. Louis Toledo New York Minneapolis Philadelphia Wichita Sioux City



BETTER TOOLS You Cannot Buy Than Goldblatt Tools

"WE COULD SELL CHEAPER TOOLS, BUT WE WON'T"
"We Would Sell Better Tools, But they are not Made"

**Goldblatt
Plasterer's Trowel**

Acknowledged
by users as
"The Best
Made"

No. 1G—Finishing Trowel, made of 22 or 24 gauge **best trowel steel**, highly polished and etched. Mounting extends within one inch of each end of blade and has **ten large rivets**. Has plenty of spring. Lime cannot work between blade and mounting. Three sizes, 4 $\frac{1}{4}$ x 11 inch, 4 $\frac{1}{4}$ x 11 $\frac{1}{2}$ inch, 5 $\frac{1}{2}$ x 12 inch. Low, medium and high mounts. Price \$2.00 charges prepaid. Your dealer or direct.

Goldblatt's Plasterer's Hawks

Made of selected soft wood; 5 inch dovetail; 6 inch handle; weight about 1 $\frac{1}{2}$ pounds. Sta. handle.....\$7.50
Patent screw handle.....\$1.00

Goldblatt's Plasterer's Brushes

Made of finest quality Russian bristles. Price \$2.00 and Up.
Goldblatt's Tile Markers

Tool Bags—Valise Shape
Made of heavy canvas, hand sewed to hoop steel frame. Has lock, 2 straps, inside pocket, leather trimmed. 5 sizes \$1.50 to \$2.25. 16 to 24 inches long.

Made of finest quality Russian bristles. Price \$2.00 and Up.
Goldblatt's Tile Markers

Most practical and best Plasterer's Tile Marker made. Price 40c.

Guaranteed Plumb

Rules \$1.75, \$3, \$4.75

All our Tools are thoroughly tested and are known to be the best. Write for illustrated Catalogue and Handy Book. Tools of all kinds for Plasterers, Bricklayers, Tile Layers, Stone Masons, Cement Workers, Stone Cutters, Terra Cotta Workers and Marble Setters.

H. Goldblatt Tool Co. 212 E. 15th Street, Kansas City, Mo.

How is it with You?

Contractors have their busy and dull seasons. During the spring, summer and fall, when people spend a great deal of their time out of doors, attention is directed to the necessity or advisability of making repairs and improvements. To this class of work is added the new building; and between the two the popular contractor is often at his wits' ends to meet demands.

It was with a realization of this condition that the manufacturers of maple flooring proposed a winter campaign, having for its primary object the installation of maple, beech and birch flooring.

It is argued in the forceful book now being distributed to



Loafing is easy work, but it does not bring in a cent.



Said the Boss: "Since the arrival of that little book, 'More Work for the winter,' we have all been busy."

contractors, that putting in a maple, beech or birch floor is a mere incident of the repair and improvement work that can be done in winter to better advantage than at any other time.

A very graphic idea of the change which the adoption of the Maple Flooring Manufacturers' Association plan will bring about is shown in the book entitled "More Work for

the Winter." Two of the illustrations used in that book are reproduced herewith and should make a strong appeal to the self-interest of the contractor. In the event readers of this paper have not sent for or have not been supplied with a copy of "More Work for the Winter," it would be a good idea for them to catch the importance of this very profitable message by sending for a copy and by applying the principle expounded.

There actually exists no reason why contractors cannot develop business with the suggestion and aid the Maple Flooring Manufacturers Association are giving and with it, it should be a very easy matter for any contractor to build up a big winter business.

All inquiries should be addressed to the Maple Flooring Manufacturers Association, Stock Exchange Bldg., Chicago.



Two Popular Flintkote Products

A roof of great beauty and good wearing qualities that is coming rapidly to the front is constructed of "Rex-Shingles." These are slate surfaced shingles and come in two colors, red and green. As these colors are formed by the natural color of the slate chips that form the surface finish, they are unfading.

"Rex-Shingles" are made by the Flintkote Mfg. Company, Inc., Pearl St., Boston, Mass. They are now distributing a very convincing little illustrated leaflet, together with samples of these shingles. According to this, the day of the wooden shingle is past. The leaflet goes on to say that the modern roof must be something more than a mere tinder covering of questionable protective qualities. It must be something more than a mere partition between your family, your home, your household possessions and the outer air. The march of progress has produced the asphalt shingle—a durable, waterproof, fire-resisting, attractive roof covering, whose cost

A Superior Aluminum Level at Lowest Cost

Direct from Maker to User

By dealing direct with us we can furnish the highest-grade Aluminum Level made at lowest prices. No middlemen's profits. The Cadillac Aluminum Level is perfection in Levels. It is far superior to any other Level on the market today. Will not Warp, Crack, Split or Rust. Impossible for it to be thrown out of adjustment.

Unbreakable

Cadillac Aluminum Levels are practically unbreakable. Spirit glasses are well protected by heavy plate glass, keeping out all dirt and dust.



Light in Weight

The Cadillac Level is the lightest level made and will last forever. Impossible for it to wear out—to get out of adjustment. Always in position for use, no matter how picked up. For use in dark places it cannot be equaled. Built for service and durability.

Lasts Forever

Nothing to wear out. Never gets out of Adjustment. This is the lightest Level made. Always in position for use no matter how picked up. Cannot be equaled for use in Dark places.

For Carpenters, Bricklayers, Movers and Mechanics.

FREE Examination Offer

Let us ship you a Cadillac Aluminum Level for FREE Examination. If it is not the best level all around you ever saw, return it to us. Write for Booklets describing the Cadillac Level.

Cadillac Tool and Sales Company
716 Chene Street, DETROIT, MICH.

Plain Facts

¶ Your interest is centered first in giving your customers the best, and secondly in reducing your overhead on the job. That is why you should get acquainted with the

Watrous-Acme

line of Butts, Hinges and Screen Hardware.

¶ They will double the satisfaction of your customers and reduce the time on the job.

¶ It will pay you to write for full particulars and prices. A postal will do.

Watrous-Acme Mfg. Co.
Des Moines, Iowa

CHICAGO SALES OFFICE: 180 North Dearborn Street



ARTISTIC HOMES

A book of 280 (8 x 11 inch) pages showing perspective views and floor plans of 250 artistic modern homes. A large variety of designs are given so as to meet the taste of the majority of home builders. There are artistic houses for people of moderate means and others for the more wealthy, but in every case the design is made with reference to comfort and economy.

Every design shown has been made by the best architects in the world, who have made a study of home architecture and that alone.

GET YOUR COPY FREE

This cloth bound book will be sent **Free**, postage paid, to anyone sending their renewal or a new subscription. Regular subscription \$2.00 per year.

American Carpenter and Builder
1827 to 1833 Prairie Avenue, Chicago, Ill.



To Make YOU A Better Builder

If you are a carpenter—to make you a foreman.

If you are a foreman—to fit you to take contracts yourself and make the big money a good contractor makes.

If you are a contractor—to show you how to get *more* contracts by figuring *closer* and *more accurately*—or to become an architect and collect the big fees a good architect gets.

This is the purpose of the clear and practical Building and Architectural Courses of the International Correspondence Schools.

Every month over 400 men report advancement or increased earnings that have come as a *direct* result of this practical I.C.S. training. What the I.C.S. have done for these men, they can do for YOU.

Just indicate on the attached coupon the line of work about which you would like to know more. Mail the coupon to the I.C.S. and they will show you how you can get this information right in your *own home* during your *spare time*. **Mail the coupon NOW.**

International Correspondence Schools

Box 910-A. SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position, trade, or profession before which I have marked **X**.

Architect Architect's Draftsman Building Foreman Building Contractor Building Inspector Estimating Clerk Structural Engineer Structural Drafter Plumb. & Heat. Con. Supt. of Plumbing Foreman Steam Fitter	Plumbing Inspector Heating and Ventilation Civil Engineer Surveying Mining Engineering Mechanical Engineering Mechanical Draftsman Stationary Engineer Electrical Engineer Electric Lighting Electric Railways	Concrete Construction Automobile Running Foreman Machinist Sheet-Metal Pat. Drafts Bookkeeper Stenographer Loc. for Contractors Advertising Man Window Trimming Civil Service Exams. Chemist
--	--	--

Name _____

Street and No. _____

City _____ State _____

Present Occupation _____

When there is little work to do—

When building business is slow—when profits are low, uncertain and elusive—

Don't close up shop—

Don't resign yourself to wait until the weather "opens up"—until things get "started" again.

Start things yourself—

Do as thousands of enterprising men in your line are doing successfully. Build up a nice, neat, comfortable, "off-season" business by installing Utility Wall Board, the all-weather wall lining.

This is a splendid time to start in with Utility Wall Board

Try out Utility Wall Board now—while you have more time than usual—while weather conditions make a thorough test possible. Utility Wall Board will prove just as satisfactory on the smallest repair or remodelling job as it has done in some of the biggest industrial plants in the country.

Two mammoth automobile factories find Utility the only dependable wall lining for their drying rooms—plaster falls off, other wall boards won't withstand the intense heat.

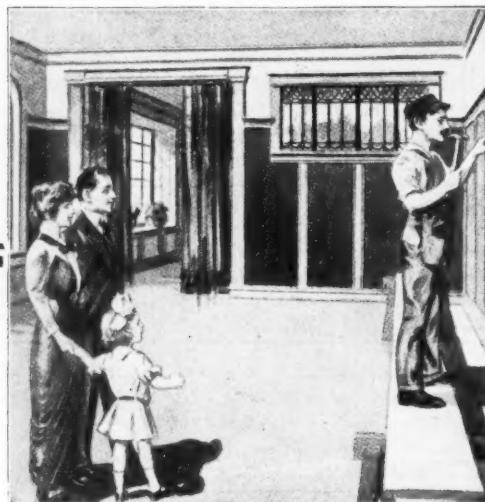
Utility Wall Board nails direct to studding or joists; can be laid right over old plaster. Weather makes no difference—Utility can be laid with satisfaction at any season.

Let us submit all the facts about Utility together with prices, samples and interesting literature. Write us now—today.

The Heppes Company

Mfrs. also of Flex-A-Tile Asphalt Shingles, Asphalt Paint and Asphalt Roofing in Any Finish.

4503 Fillmore Street Chicago, Illinois



is no more than the wooden shingle—and far more handsome, practical and economical.

"Rex-Shingles" are made of the very best of raw materials, (felt, asphalt and slate surfacing). Fifteen years of roofing experience are back of them as a guarantee to their serviceability under all conditions. These shingles are intended for use on all kinds of buildings from the costliest home to the smallest cottage. They are being widely used and their popularity is increasing. Their cost is within easy reach of the average builder.



"Rex-Shingles" for Artistic Residences.

"Rex-Shingles" are eight inches wide and twelve and one-half inches long. They are exposed four inches to the weather, giving a solid three-thickness roof.

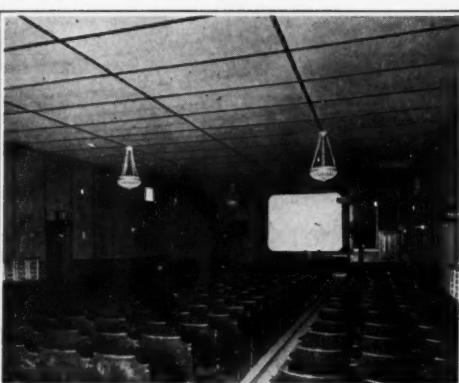
Another valuable roofing material offered by the Flintkote people is their "Paradux" canvas-roof covering. This is a material especially designed for deck covering. For porch



Residence of W. R. Rust, Tacoma, Wash.
Paradux used for decking.

it away. It makes the canvas itself waterproof and besides roofs and balconies it is unsurpassed. It is a combination of heavy canvas and waterproofing. The waterproofing gums have been applied directly to the underside of the roofing without the addition of felt. This coating permeates the fibres of the canvas and bonds so securely that it is impossible to tear forms a waterproof backing which acts as a cushion. In laying this roofing no additional cement is needed along the joints where the strips overlap, the waterproofing gum acting as its own cement and binding the two layers together. Galvanized iron tacks or copper tacks are used.

The Flintkote Mfg. Company, Inc., Pearl St., Boston, Mass., will furnish descriptive literature and samples on request.



Plasteron Solves the "Winter Work Problems"

This moving picture house was built in the winter by Joe. Eisenhaur at a profit of \$115 more than if lath and plaster were used.

PLASTERON TREATED WOOD FIBRE WALL-BOARD

"Every Panel Guaranteed"

The same success and profit is open to all who use Plasteron because it is the only high quality—all wood fibre—wall-board selling at a reasonable figure.

When Better Board Is Made, We'll Make It.

Take our samples and prices to your customers and you'll get the job.

PLASTERON WALL BOARD CO.

101 Fillmore Avenue, Tonawanda, N. Y.

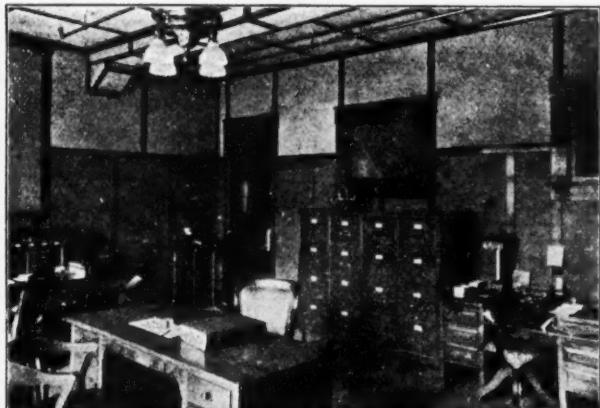
High Grade Roofing Slate at Low Grade Prices

Guaranteed to meet the most exacting requirements at lowest minimum of cost is assured the user of

SHELDON'S SLATES

Every known color, trade, size and thickness. Blue prints, lay outs and valuable suggestions furnished covering every detail of your Roof Question. Post a postal and get posted.

F. C. SHELDON SLATE CO. :: Granville, N. Y.



Build For Permanent Profit

When you have a job of interior finishing, whether in an office building, a factory or a private home, don't forget that every dollar you save for your client will be appreciated and that his continued patronage depends on the value you put into the first job. You will please your patron and make a satisfactory profit for yourself when you use

Roberds Ideal Wall Board

Unlike many substitutes for lath and plaster, Roberds Ideal Wall Board is not a make-shift but is a substantial, time-tried and thoroughly practical interior finish that does not shrink or bulge, does not pull off or warp. It goes on in a truly workman-like manner and stays where you put it. Properly applied, it makes the most handsome, durable and permanent form of interior finish. Our proposition to contractors makes this a most profitable line to handle. Write for territory, booklet, samples and prices.

Roberds Manufacturing Company, 100 Railroad St., Marion, Ind.

Do You Build to Sell?

Then you want plans that are practical and give the most for the money; that meet the climatic requirements of your locality. Stillwell homes are distinctive; artistic; comfortable; inexpensive to build; easy to sell.

STILLWELL California Bungalow HOMES

3 BIG PLAN BOOKS for \$1.00 Postpaid

"REPRESENTATIVE

CALIFORNIA HOMES"

50—\$1600 to \$6000—50c

"WEST COAST BUNGALOWS"

51—\$600 to \$2000—50c

"LITTLE BUNGALOWS"

31—\$300 to \$1700—25c

Each has photos and full descriptions, plans, costs.



We sell books and blue prints on a Money-back guarantee.

E. W. STILLWELL & CO., Architects, 4361 Henne Bldg., Los Angeles

There's Just One "Wood-Core" Wall Board

Its construction is shown by the border of this advertisement. Selected kiln-dried wood slats are laid edge to edge for the core. Heavy, specially prepared paper is cemented onto both sides, under enormous pressure. This patented construction makes

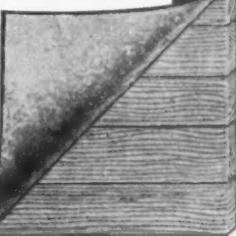


Trade Mark Registered U. S. Patent Office, No. 94745

the strongest wall lining in use. It will materially strengthen and stiffen a frame house, as compared with lath and plaster or other wall covering.

Other wall boards are often wrongly called Compo-Board, and sold as such. Be sure you buy and use *real* Compo-Board — our trademark, as shown above, is on every piece. It's sold almost everywhere.

Northwestern Compo-Board Company
5777 Lyndale Ave. N
Minneapolis, Minn.



Profits in Spare Time

A live proposition for carpenters is illustrated below, if you are energetic and want to keep the dollars rolling in during the winter months. Woodworkers take great pride in possessing a truly high-grade pocket knife, one where the blades will take and hold an edge. The steel used in the blades of the United Cutlery knives is said to be the best that can be obtained, being imported from the S. & C. Wardlow Bros. of Sheffield, England. All blades are hardened and tempered by the most scientific processes, assuring a blade of high quality. A guarantee is given with each knife purchased from them.



Quality Blades and Photo Novelty Handles Make These Knives Popular.

These Photo Handle Knives are a popular novelty, having many advantages over the ordinary pocket knife, inasmuch as your name and address can be placed in one side of handle, which will insure you of its return should it be lost,—also as a personal identifier in case of accident.

On the other side can be placed photographs of Wife, Children, Mother, Father, Sister, Brother, also Lodge or Trade Emblems, in fact anything imaginable that one would wish.

These knives make an excellent souvenir for dealers or builders. Place your ad. on handle.

These Photo Knives cannot be purchased from hardware or general stores, only sold through our duly appointed agents or direct from factory. Very liberal commissions are allowed agents on the sale of these knives. You can give full or only spare time to this work, as you wish. For full information write The United Cutlery Co., Dept. F, Canton, O., also see their announcement on another page of this issue.

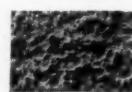


An Automatic Stucco Machine

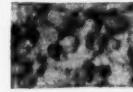
The most popular residence of late years has been the "Stucco" or "Cement Plastered" house. Thousands of these buildings have been erected in all parts of the country, and they have given very good satisfaction. Many contractors have made something of a specialty of this exterior plaster work—many more would like to get into this line, were it not for the difficulties and uncertainties of putting on the finishing coat.

Slap Dash stucco finish, Pebble Dash finish, and Stippled effect have been the most popular finishes. It is counted quite a trick to handle this work by ordinary methods, slow and expensive, and results uncertain.

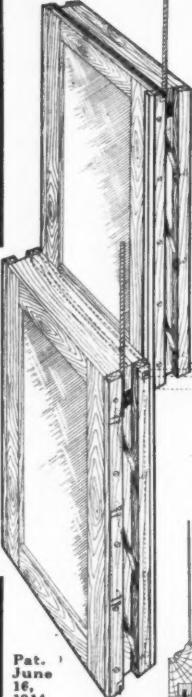
Cement plastering contractors and others will be interested



Stippled Stucco.
Cement Siding Finishes Put on by Machine.



to learn of an automatic stucco machine that has been perfected, which handles this stucco finishing work cheaply, rap-



Better than Weatherstrip
The
ERLINDER
Window Sash Patent

can be applied to all sliding windows. It absolutely prevents rattling—keeps out draughts and dust. Here is a device that will last as long as the sash, does the same things weatherstrip does and is invisible. Nothing to rust or wear out. Nothing to get out of order or break.

We want all Carpenters and Builders to become Agents for this appliance. Good Money Maker. Equip all your sliding windows with it. Once used you will never think of using unsightly weatherstrip. Easy to install and once installed it's in for good.

We will send, carriage prepaid, equipment for two sash complete for 35c in stamps or money. In ordering please give height and width of sash.

Send for Descriptive Circular giving full information and details. Write to

P. E. ERLINDER
7922 Harvard Ave. Chicago

PROSPERITY and Success have been the reward of Our Customers and will continue to be in 1915. Our 20 years' experience manufacturing and selling

LUMBER and MILLWORK

exclusively to CONTRACTORS, is one of their greatest helps. Lumber is advancing and we advise Contractors to induce builders to let their contracts at once. Buying immediately will mean buying at same prices you did 10 years ago—a great saving.

BARROWS & DONNELLAN CO.

8757 Baltimore Avenue
CHICAGO

*We want to quote you Delivered Price on
Lumber and Millwork.*

Mail Lists TODAY for Estimates.

We Pay
Freight



All sizes for all purposes. 1½ to 18 H. P. Vertical and horizontal. Guaranteed 10 years

Don't Pay For Your "Ellis" without getting it

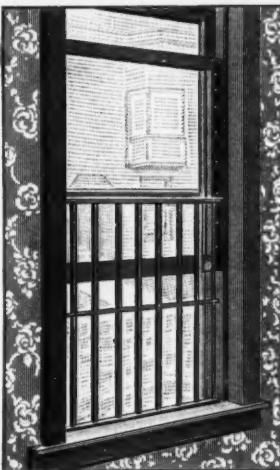
Every carpenter or contractor who does not use a reliable engine is paying for the engine without getting it. He pays for it in lost time, and in labor costs. You can buy an Ellis Engine out of two weeks' wages to one workman; and your Ellis will give you reliable service for many years.

Ellis Engines are America's favorite with carpenters, contractors and builders. Very compact in design; light in weight in proportion to power. Easy to operate; no cranking. Run either way; reversible while running. They work successfully on common cheap lamp oil at a fuel cost of

6 cts. for 10 hours

for each horsepower developed. Just the thing for wood-workers, rip-saws, planers, cement mixers, hoists; in fact for every job where power can be used. Write for free book "Engine Facts" giving valuable information and full details of our 30 Days' Free Trial Offer, with opinions of users from all parts of the world.

Ellis Engine Co., 2863 E. Gd. Boulevard, Detroit, Mich.



—MR. CARPENTER AND BUILDER:—

HERE IS YOUR OPPORTUNITY to keep busy all winter selling and installing the patented **SECURITY WINDOW GUARD** at a big profit. SELLS ON SIGHT. A simple, practical device which appeals to every home. Is attached to inside of window, which can be raised and lowered all the way up and down without removing the window guard. Instantly removable from the inside when washing windows or in case of emergency, but impossible to remove from outside the building at any time. Strong, made entirely of steel. Handsomely finished in copper bronze, aluminum or dull black. Very easy to handle and attach. No locks, bolts or catches.

WRITE TODAY for our liberal proposition.

SAFETY-FIRST



THE HOME SECURITY WINDOW GUARD COMPANY

(Not for)
30 East Randolph Street, Chicago

Attention, Mr. Carpenter—
This Will Interest YOU!



As a Mechanic Your Services are judged by the Work you do. All **DIAMOND EDGE** Tools are designed to give the best results and are demanded by most skilled mechanics in every line. They make your work easier and better. Try them. **DIAMOND EDGE** Tools will prove their merit. **DIAMOND EDGE** Planes have Black Enamelled Cast Iron Frames; Corrugated or Smooth Bottoms; Unbreakable Hard Rubber Handles; Highest Grade English Tool Steel Cutters, Tempered in Oil, Ground and Sharpened by Hand. Ask Your Hardware Dealer for **DIAMOND EDGE** tools. He can supply you. If Not, write us. Department W.

All **DIAMOND EDGE** Tools Are Fully Guaranteed.

**Shapleigh Hardware
Company**
Established 1843
ST. LOUIS
"DIAMOND EDGE IS A QUALITY PLEDGE"

BUILT FOR ROUGH WORK HARGRAVE WRECKING BARS



Two new Hargrave Quality
wrecking bars.

"Goose Neck" bar, shown at left, is used for all around work and places hard to reach.

The "¾-bend" bar, shown at right, is a general utility wrecking tool. Proper groove gives tremendous leverage in starting stubborn nails. This bar can be used at any angle. Length of bend allows longest nails to be drawn straight.

Enlarged view of claw used in both of these tools is shown at top. Its tough, bevel edges easily get under nail head no matter how deeply driven. Edges are oil tempered. This process toughens the claw so it will not chip nor flatten.

These new tools are made to fill a real need. Add them to your kit.

Hargrave Quality trade mark on any tool is your best protection. Your dealer can supply you. Catalog of complete line gladly sent to you.

Please Address Dept. H,

The Cincinnati Tool Company
Norwood, Cincinnati, Ohio

Typewriter Sensation

2 Dollars a Month
Buys a Genuine Standard No. 2

Smith Premier Typewriter

and at \$71.20 less than the Manufacturer's Price



Never before has anything like this been attempted. Dealers get \$3.00 a month rent for this make of machine, not nearly as perfect as the one we will send you, and you pay only TWO DOLLARS A MONTH AND OWN IT.

A - GUARANTEED - TYPEWRITER - \$28.80

High-grade machines only, complete outfit, nothing extra to buy, no strings of any kind to this offer. Just think of buying such a typewriter for \$8.80 down and \$2.00 a month. Cash price \$27.40. Thousands of people have paid \$100.00 cash for Smith-Premiers. It's standard, by many considered the best typewriter ever built. A key for each character, so each character printed is always the same; a brush for cleaning the type built into the machine; the tilting carriage instantly throws all the writing in plain sight. Comes to you with complete operating instructions, tools, waterproof cover, practice paper, everything ready. It runs beautifully. Writes as perfect and clean cut a letter as quickly and as easily as any machine bought for \$100. It's wonderfully simple, a child can operate it with half an hour's practice and rapidly attain speed. It's strongly built and will give you years and years of honest service and complete satisfaction.

SEND THE COUPON AND WE WILL SHIP YOU THIS SMITH-PREMIER TYPEWRITER

When the typewriter arrives, deposit with the express agent \$8.80 and take the typewriter three days and try it. If you find it to be the best typewriter you ever saw, satisfactory in every respect, keep it and send me \$2.00 each month, until our special price of \$28.80 is paid. If you don't want to keep it, return it to the express agent, and he will give you back your \$8.80, and return the typewriter to us. I will pay the return express charges.

You won't want to send this machine back after you have seen it and tried it. You can't imagine the perfection of these machines till you see one, and the price is \$71.20 less than the catalogue price, and it is guaranteed just as if you paid \$100.00.

The supply at this price is very limited, the price will probably be raised when next advertisement appears, so don't delay. There is no red tape. I employ no solicitors—no collectors—no chattel mortgage. It is simply understood that I retain title to the machine until the full \$28.80 is paid. Without sending any money write me now to ship you this typewriter for free trial.

This coupon states the terms. Fill it out and send it now, today. You can't lose, and it's the greatest economical typewriter opportunity you will ever have.

COUPON

HARRY A. SMITH,
905-231 N. Fifth Ave., CHICAGO, ILL.

Ship me a No. 2 Smith-Premier f. o. b. Chicago as described in this advertisement. I will pay you the \$20.00 balance of the SPECIAL \$28.80 purchase price, at the rate of \$2.00 per month. The title to remain in you until fully paid for. It is understood that I have three days in which to examine and try the typewriter. If I choose not to keep it I will carefully repack it and return it to the express agent. It is understood that you give the standard guarantee for one year.

Name.....

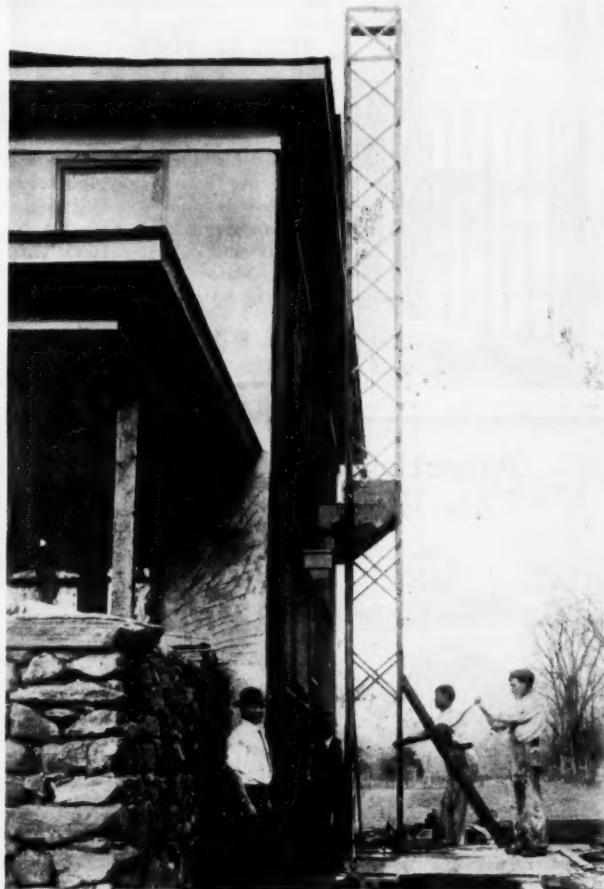
Address.....

Shipping Point.....

A. C. & B.

idly and well. This is known as the "Swenson Automatic Stucco Machine," and is being sold by the Automatic Stucco Machine Company, Vanderbilt Avenue Building, opposite Grand Central Station, New York City.

The machine consists of a hub or drum bearing a number of hardened steel springs. These revolve in a hopper containing the finishing coat stucco material. The hub revolves and the springs snap or throw the cement aggregate against the wall with considerable force. Should these springs ever wear out they can be replaced at small cost. The machine is mounted on a platform between uprights, somewhat resembling an elevator shaft. These uprights are made in sections, and can be extended as high as desired. When a building is ready to be finished the outfit is erected close to the wall, as shown in the photograph. The windlass handles are turned, revolving the hub and depositing an even layer of material on the wall. At the same time the machine gradually rises so that the entire wall from the bottom to the eaves is finished at one operation.

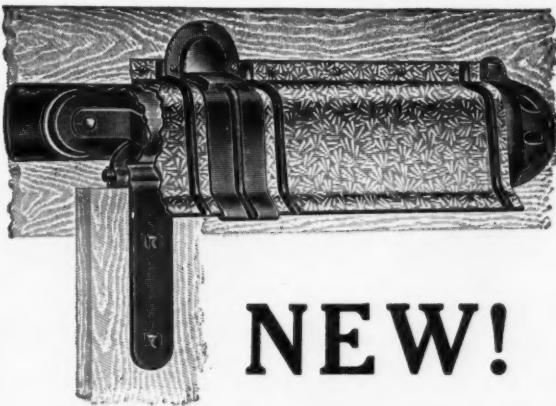


Swenson Automatic Stucco Machine Puts on Stucco at Big Saving.

The Swenson automatic stucco machine is simple in operation, and no special skill is needed to operate it. In dimensions it is made in sections of 8 or 10 feet in lengths, to suit the height wanted, making it easily transportable. This machine is also made as a hand machine, without the uprights, and is sold at a very low price.

The machine will positively do the work of more than 10 men, and do far superior work than can be done by hand.

A valuable formula for mixing the stucco, guaranteeing that it will be even color and that it will positively not crack or blotch, with full directions, will be given to the purchaser of each machine. This is the inventor's own formula and is the result of twelve years' practical experience in successful stucco work.



NEW!

You know the old, reliable Cannon Ball Barn Door Hanger—competitors have been trying to equal it for years and haven't hit the mark yet.

Well—if such a thing is possible—we've improved the Cannon Ball—made an addition which gives the user protection plus.

A cover for Cannon Ball track—as illustrated above, is now to be had at nominal cost with new track. It gives the finishing touch of protection—makes the outfit positively weatherproof in every respect—keeps rain and weather away from the hanger and top of the door itself—and adds but little to the cost.

New Track For Cannon Ball Barn Door Hangers Now Furnished With Cover If Desired

Write for detailed information—prices, etc. In addition to the largest line of door hangers, we make the best barn equipment, too. Ask us.

Hunt, Helm, Ferris & Company
304 Hunt St. HARVARD, ILL.



Two Books that Every Builder Needs

"Tiles and Mosaics"—describing the complete Lorenzen line of tiles, mosaics and ceramics for bathrooms, kitchens, hallways, drug stores, ice cream parlors, banks, buffets, walls, wainscoting, store entrances.

"Vogue in Fire Places"—a complete treatise on fire place construction, profusely illustrated with color plates and photographs in a wide range of designs and each carefully priced.

Both books demonstrate Lorenzen quality in construction, material and workmanship—the safest guarantee a builder can have.

You should have both of these books in your files.

A postcard will bring them. Write **today**.

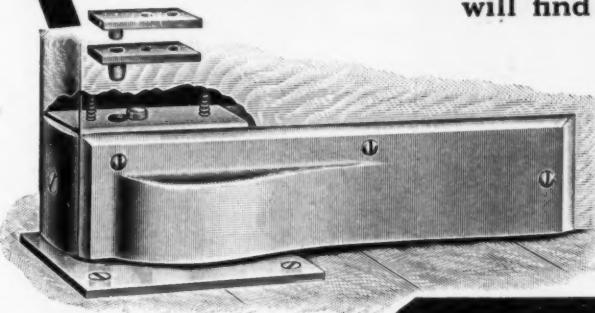
Send for our liberal discount proposition to Carpenters and Builders.

• **Chas. F.
Lorenzen & Co.**

103 No. Clark St.,
Chicago, Ill.



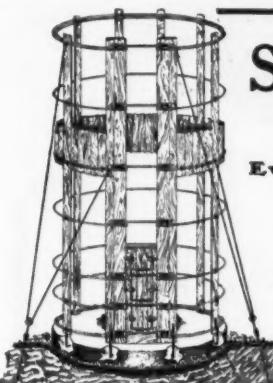
Any Hanged Hang Man Hanging Doors
will find pleasure in hanging
any hanged door with



The Shelby CHIEF

Double-Acting, Ball-Bearing Floor Hinge
Made at Shelby, O., Sold Everywhere. Be sure Shelby
Chief is on Floor Plate. TRY IT.

THE SHELBY SPRING HINGE CO., Shelby, Ohio



Silo Building

BIG PROFITS

Every Farmer Needs One

Free Plans and Special
Offer to Builders

Get in touch with us today

Central
Unadilla Silo Company
DES MOINES, IOWA
Beaumont, Texas

Unadilla, N. Y.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

The "Rustless" Rule A Revelation in Lightness, Durability, Compactness, Convenience and Low Price!

Here's the rule that every carpenter and builder has waited for. Won't rust, weighs little; fits the vest pocket, yet opens up to 2, 3, 4, 5 and 6 feet: costs less than steel rules, yet is just as durable; has large figures and accurate graduations; has permanent legibility.

The "RUSTLESS" Rule is made of Luminoy—a special alloy of aluminum, with a bright polished surface that will never tarnish. The rule weighs about one ounce to every lineal foot, is not bulky, and folds up into six inch lengths; the joints cannot work loose.

Buy one from your local dealer. If he cannot supply you, take the small trouble to write us direct.

Prices—3 ft., 75¢; 4 ft., \$1.00;
5 ft., \$1.25; 6 ft., \$1.50. Give us
your dealer's name.



Reliable Stamping Co., Inc.

369 Seventh Street
Buffalo, N. Y.

"Trouble Saver" An Improved Scaffold Bracket

In making their bow to the readers of this journal, the Steel Scaffolding Co., of Evansville, Ind., introduce themselves as the manufacturers of the "Trouble Savers" steel scaffolding.

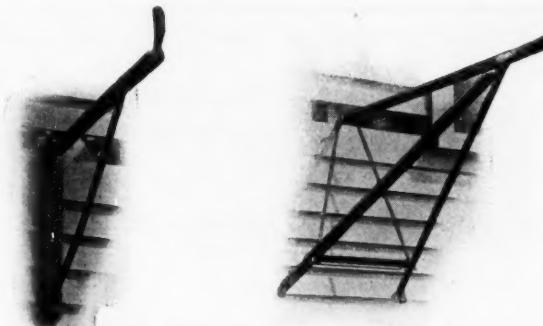
The many improvements in equipment for contractors; the advance in wages and material, including the advance in the price of lumber, make the subject of scaffolding of greater importance than it has been in the past. In presenting the line of "Trouble Savers" steel scaffolding for carpenters, masons, plasterers, decorators and other contractors, they are offering a very practical line of this kind.

As an earnest of their faith in them, they sell them subject to approval after thirty days' trial.

We believe the time is here, now, when scaffolding should be a definite part of a contractor's equipment, and constitute an asset, rather than a continuous and increasing expense on every job.

In another part of this issue we show the "Trouble Saver" folding bracket scaffold for siding and weather boarding. It takes direct hold of the studding and cannot fall unless the studding gives way. The weight on the outer end of the bracket is carried by two equal supporting braces or legs that converge to the center in a way that makes the bracket absolutely rigid, and prevents any side motion whatever. It is this safety and solidity that recommends them to your workmen, giving them a firm, solid foundation to get about on, and enabling them to do more work. You can place one of them in position in a second or remove it just as quick. It is not only a "Trouble Saver," but a time saver—it saves material and prevents injury to your workman.

The manufacturers are selling these brackets direct to the contractor under a guarantee for five years—there is no



Two Styles of "Trouble Saver" Scaffold Brackets.

reason why they should not last for a generation, and if anything goes wrong with them they will make it right. The prices are reasonable and they pay the freight. Circulars giving full particulars will be mailed on request to the Steel Scaffolding Co., Evansville, Ind.

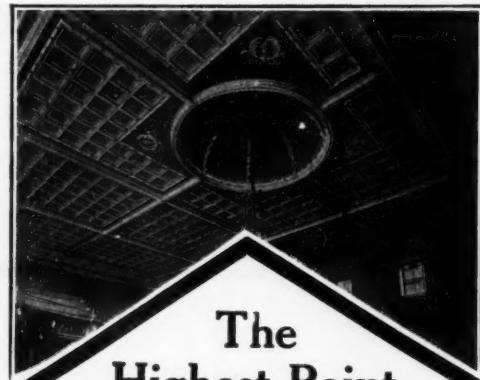


Forest Notes

Pennsylvania and New Jersey lead all other states in the quantity of wood used for making tobacco pipes, and utilize apple wood, French brier, ebony, birch, red gum, and olive wood.

The position of city forester is now offering a new field for men with a technical training in forestry. Fitchburg, Mass., is one of the latest towns to secure an official of this sort.

The State school of forestry at Bottineau, N. D., announces that it will have one million trees for distribution to the citizens of the State during 1915.



The Highest Point in Modern Ceiling Construction

is found in Berger's "Classik" STEEL Ceilings.

These ceilings are unsurpassed for beauty of design, durability and ease of application. They have prevented many big fires by confining the flames to one room.

Used in public and private buildings of every type and size. **Never crack, sag or fall.**

Our new close-fitting bead and never-slip nailing button save 25% to 40% in erection costs.

Send a card for a copy of our handsome 148-page catalogue.

The Berger Mfg. Co., Canton, Ohio

For the best service address
nearest branch

New York

Philadelphia
Export Department

Minneapolis

Boston

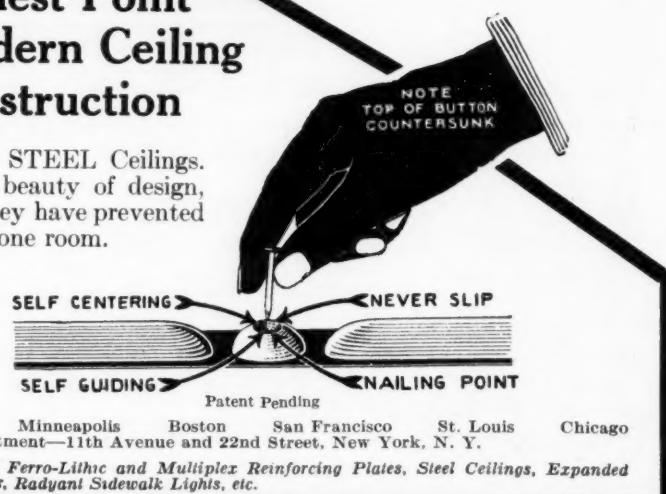
San Francisco

St. Louis

Chicago

Export Department—11th Avenue and 22nd Street, New York, N. Y.

Also manufacturers of Prong Lock Studs and Furring, Rib-Trus, Ferro-Lithic and Multiplex Reinforcing Plates, Steel Ceilings, Expanded Metal Lath, Sidewalk Forms, Radyant Sidewalk Lights, etc.





Slipped!

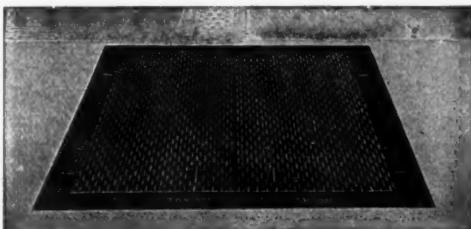
Can't happen
on a

Canton SIDEWALK DOOR

Because the surface of **Canton Sidewalk Doors** is corrugated. In rainy or slushy weather the sidewalk may be slippery but **Canton Sidewalk Doors** always provide a firm foothold. Prevent accidents; prevent damage suits.

Considering only the material and workmanship in **Canton Sidewalk Doors**, you have the best sidewalk door made. Then there are the other good features—stay rods and chains to protect the opening; checkered surface—anti-slipping; flush hinges; improved, burglar-proof locking device.

The price and merit of **Canton Sidewalk Doors** will please you. Write for **FREE CATALOG B-1** of Sidewalk Doors, Coal Chutes, House Movers' Jacks, Gratings, and all Builders' Iron Work.



Canton Foundry & Machine Co., Canton, Ohio

THREE SIZES—THREE DEPTHS
12" x 18", 16" x 20" and 18" x 24"
depths. 9, 13 or 18 inches.

Gives positive protection because it is steel and cannot possibly be opened from the outside. Very reasonable in price. Send for Circular and Prices.

Shultz All Steel Corner Post Co.
St. Joseph, Missouri

Shultz
All Steel, Burglar-Proof
Coal Chute
Clean, sanitary, without rods, bolts or screws in the hinges. No glass to break. Solid, strong and can be used for coal, wood or vegetables.

C. H. SHULTZ.
PAT. SEPT. 24-07
ST. JOSEPH, MO.



If You Build Buy Own

Be up to date and have the world's best

The Window Chute

for your coal bin.

Thousands in Use

The Very Best

Write for Booklet C.



Holland Furnace Company Holland, Mich.

World's Largest Direct Installers of Furnaces.

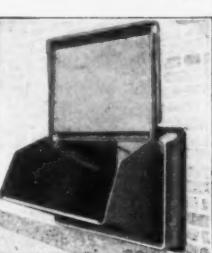


The "Ottomatic" Coal Chute

Patented Sept. 15, 1914

Fire Proof-Burglar Proof-Fool Proof

Best—Indestructible—the One
Operation Chute—Locked
in Both Positions.



No. 1, 17x24", wt. 100 lbs... \$12.00
No. 2, 22x33", wt. 150 lbs... 17.00

CAN BE PUT IN OLD OR
NEW BUILDING
Special Discount to Agents

THE MAXIMILIAN CO.
844 Monadnock Block Chicago, Ill.

WATERLOO CAST IRON Coal Chutes

Protect the house from careless coal men. They are burglar proof—lock only from the inside.

Being made of cast iron, are not affected by the weather.

Wire glass in door furnishes light to cellar. When door is open, the glass is protected by heavy steel, which operates automatically.

The watertable at the top of chute protects the inside of foundation from moisture. Doors are extra heavy, with three hinges at top, and are made with a beaded edge which extends over the border opening, making a tight joint. Are made to fit any depth wall.

Send for catalog, which quotes special prices to contractors.

The Waterloo Register Co.

114 Rath Street

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

Peerless Corner Miters

save their cost in labor many times over where weather boards are mitered. They are made of galvanized iron and the small points at the bottom serve to hold the corner firm and prevents the miter from pulling away. There are no nails exposed when using the **Peerless** miter.

Free samples and prices on request.

Indianapolis Corrugating Co.
Indianapolis, Indiana

Hess Steel Furnace



Thousands of families, paying a few dollars down and a dollar or two weekly, have made their homes warm and cozy with HESS FURNACES.

HESS FURNACES burn any fuel and save all the heat.

HESS FURNACES, sealed by welding, never leak gas nor dust. Ordinary cement-joint furnaces fail in this.

HESS FURNACES produce an atmosphere like midsummer, by rapidly circulating pure warm air, properly moistened. You don't get it with other methods.

HESS FURNACES respond promptly and perfectly to regulation, and meet any weather conditions.

HESS FURNACES are easy to install, simple to operate, and cheaply maintained.

HESS FURNACES are easy to buy: at factory prices,—installments or cash, combined with a Profit Sharing plan which returns to you part of all the price you pay.

SPECIAL TERMS TO CONTRACTORS. If you are a contractor mention it when you write.

Write us and let us tell you more about it. Booklet and estimate on request.

HESS WARMING & VENTILATING CO.

1220 Tacoma Building, - Chicago, Ill.

*Makers also of White Steel
Medicine Cabinets*

Place "Ro-San" Chemical Closets

Winter work—that's the problem that confronts so many carpenter contractors as soon as snow falls. The average contractor is offered many chances to act as agent for various devices, but most carpenters like to engage in some activity that is close to their regular work. The indoor chemical closet offers an excellent opportunity.

The growing sentiment against outdoor closets is creating a widespread demand for an indoor toilet that will be odorless, sanitary and easy to care for. The contractor is interested in such a closet because he can furnish it to his customers at a cost under that involved in the construction of the old-fashioned outdoor privy.

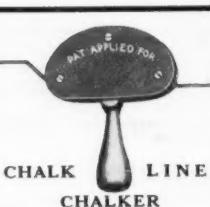
We show here a "Ro-San" chemical closet, for use anywhere inside the house, which in design and construction follows recommendations laid down by the boards of health in various states. This particular closet is manufactured by the Rowe Sanitary Manufacturing Company, 201-C Sixth Street, Detroit, Mich. It is all metal and has five coats of enamel to give it a high finish. The chemical is placed in where a family of three is emptied once in three weeks where a family of three is using the closet. The chemical has no disagreeable odor, kills all life matter in the contents, rendering the contents perfectly harmless. A vent pipe running into a chimney or stovepipe or outdoors through the roof provides perfect circulation to carry off odors while in use.

It is said that a contractor, acting as the company's agent, can install this closet for his customer, and make a much better profit than building an outdoor privy and the owner is better satisfied. Anybody can set the closet up in ten minutes. This type of closet is used in many schools and is recommended instead of privies and cesspools by health officers. It adds comfort and convenience to the house. It improves sanitary conditions. It may be moved when the family moves and may easily be moved from one room to another.

With the practicability of these closets absolutely assured many carpenters are spending their winter days selling them to people for houses where there are no sewer connections. In this way these contractors not only find profitable work in winter, but are able to build up a trade that can easily be taken care of after building operations open up in earnest in the spring. The Rowe Sanitary Manufacturing Company will send full details and agents' terms to any reader of this paper who is interested.



"Ro-San" Chemical Closet is
Attached to Any Stove
Pipe Hole.



THE MILLS GRAVITY LINE CHALKER PAYS FOR ITSELF

on One Shingling Job. No Walking
Across Roof. Prepaid to Any Ad-
dress. \$1.50. Send for Circular.

AGENTS WANTED

B. F. MILLS Decatur, Ill.,
1552 N. MORGAN ST.

Get \$500 for \$200 and a Quick Turnover

Other builders are doing this every day. They have learned by experience that they can more than double their money and dispose of the houses they build in short order by equipping every one with the

TUEC STATIONARY CLEANER

For Health and Cleanliness

For the average \$3000 house the TUEC Cleaner complete with hose and tools costs only \$160, f.o.b. Canton, Ohio. You can install it for less than forty dollars and get at least \$500 more for the house. Rentals will be increased in even better proportion.



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The United Electric Co.

Write today for particulars and
FREE BOOK telling where thou-
sands of TUECS have been installed.
Our special proposition will interest
you greatly.

The United Electric Co.
30 Hurford St. Canton, Ohio



How to Get Lumber at Mill Prices

We ship direct from our Yellow Pine Mills, at Mill Prices to you. We carry in stock over 25,000,000 feet of dry, bright lumber and the capacity of our mills is over 75 million feet annually.

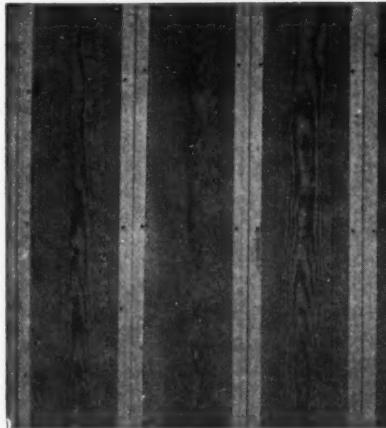
Contractors We can furnish promptly, lumber for building
Home Builders of every character. Special bills cut to order. Low prices quoted on millwork, asphalt roofing and superior wall board. Contractors and home builders write us for delivered prices.

Home Lumber & Supply Co.

343 S. Dearborn St., Chicago, Ill. Dept. 605

Send No Money

We guarantee the quality of our lumber and ship subject to inspection and approval to all responsible parties.



METALLIC BATTEN STRIPS

PRACTICAL—EVERLASTING—ECONOMICAL

These Batten Strips of Galvanized Metal will never warp, split, or draw away from the boards. Offer no obstruction to sliding doors. Allow for expansion and contraction of the siding. Made in 8-foot and 10-foot length with interlocking joint. Easily cut; no waste.



End view showing joint closed. A perfect fitting Batten at all times, in all weathers. Beautifies any building.



End view showing joint open. Provides for expansion or contraction of the siding so nails will not work loose.

Metallic Batten Strips make strong, neat joints. They make the building wind-proof, weather-proof and rat-proof. Also valuable for lining grain bins or wagon boxes.

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METALLIC BATTEN COMPANY

Owensville, Indiana

I WILL START YOU IN THE MAIL-ORDER AGENCY BUSINESS

We Have Taken in Over \$1,000.00 a Day!!

FREE

THIS \$60 INSTRUCTION COURSE FREE

H. S. Robinson, Pres't, The Robinson-Butler Co., 185 Factories Building Toledo Ohio

MAKE MONEY BY MAIL

My father and I started on \$40 worth of merchandise. We placed a few ads in the papers. Got a few agents started. In 2 years our agents were selling over \$100,000.00 worth of goods for us a year. We had just a few dollars capital; no experience. Soon our agents were selling goods all over the U. S. and in many foreign countries. We sat in our office and had people everywhere sending us orders and money by mail. We didn't have to do any canvassing or peddling. Agents sold our goods. We started at home; worked evenings at first. Soon we quit our jobs and put all our time to the Mail-Order Agency Business. We made an amazing success selling by mail. Why can't you do as well? I will help you.

Think of a business like that by mail. Listen! The sales from just one general agent made us over \$10,000 a year profit. Suppose you started in your own home with a few good selling articles, placed a few ads in the papers, and got agents selling your goods all over the country. Why couldn't you take in \$100 a day? I will start you; will give you \$60 Instruction Course FREE to study; supply you with circulars advertising 15 meritorious specialties, printed with your name and address on. I will tell you how and where to advertise; I will place an ad for you FREE. I will help you all I can. I need just a few hustling energetic co-operators, men with ambition, enthusiasm and back-bone. You don't need big capital; less than \$50 required. I supply you with complete equipment. If you want to start in a fascinating, profitable business write me, giving the names of three references and I will write you a long letter, telling you all. I will tell you the Inside Facts, how many concerns have made from \$5,000 to \$50,000 a year PROFIT in the very same business in which I want to start you. You must not delay. My offer is limited. Sit down and write me NOW.

Why WITTE Engine Prices Are So Low

WITTE Gasoline & Naphtha Engine—Stationary
Sizes: 2, 4, 6, 8, 12, 16 and 22
H.P. Shown mounted on iron sub-base.

The WITTE is perfectly balanced and proportioned in all its parts so there is no excess friction to overcome—the highest possible percentage of fuel is converted into directly transmittable power. All have detachable cylinders, 4-ring pistons, automobile style vertical valves, automobile ignition, spark shift for easy starting, double weight, extra sensitive, positive governors and other merits without which no engine can now be high grade.

WITTE ENGINES
Kerosene, Distillate, Naphtha and Gas
Direct From My Factory To Users Everywhere

The WITTE has been the standard of engine quality for 27 years and has established a much lower cost of engine power from the liquid fuels of today's markets. This lower cost operation, in life-long wearing engines, together with my new and remarkably low prices entitles my present offer to the utmost consideration of every engine buyer-user in the country.

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ED. H. WITTE, Witte Iron Works Co., 1778 Oakland Ave., Kansas City, Mo.

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Without cost to me, and with no obligation on my part, I should like to receive your latest and finest Engine Book and to investigate your New Liberal Selling Plan.

Name.....

Address.....

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

A Popular Offer

A large number of our readers are taking advantage of the easy terms on which the A. S. Aloe Co., 621 Olive St., St. Louis, are offering their Convertible Level for builders and contractors.

Their proposition is practically the same as renting a level for ten months and then finding it is all paid for. A builder or contractor needs a good level for laying out buildings, locating foundation piers, leveling all foundations, as well as floors; aligning shafting, wheels, piers, etc.; for getting angles, locating levels, ditching, laying walks around side lines and for a hundred other uses. A good level is really indispensable. This level of theirs is not an old style level, it is the newest 1915 model Convertible Level.

They have a valuable instruction book fully illustrated, telling how the builder or contractor should use the Convertible Level. They will send this free on request to any of our subscribers who will write for it.

Typewriter on Easy Terms

Harry A. Smith, Room 702, No. 231 N. Fifth Ave., Chicago, is making a special offer on typewriters that should interest a good many of our readers. As business men, contractors and builders ought to use a typewriter. Time is lost, money is lost, and contracts are lost because of letters, estimates and bids written out in hard-to-read handwriting.

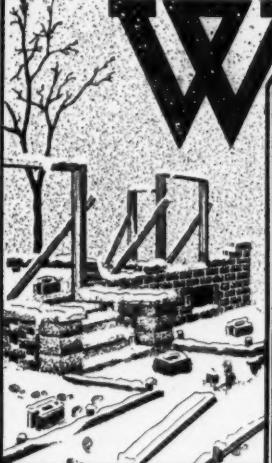
One of the surest marks of the wide-awake business contractor is that all his letters go out neatly typewritten on good, business letterhead paper. Such letters always receive the best attention. It is easy to learn how to use a typewriter. No carpenter or builder need be timid about starting in to use one. With a few hours' practice one "gets the hang of it."

Now, in regard to this special easy-payment proposition that Mr. Smith is making, his machines are the genuine standard complete visible writing Model No. 2 L. C. Smith typewriter. A limited number are offered Our Folks at less than half the catalog price, and payments can be made by the month. By the terms of his generous offer, you rent a high-grade typewriter for a few months, and then it is yours. Write Harry A. Smith for full particulars, or refer to his announcement on another page of this issue.

The annual cut of British Columbia timber is approximately two billion feet. There are 420 mills and 790 logging camps in the province, employing about 60,000 men.

Winter

*Doesn't Stop
the Automatic
Sealing Vault
Business*



That's why you should start now. Now when times are slack and you have plenty of time. Keep the profits coming in now and all the year round. Manufacture

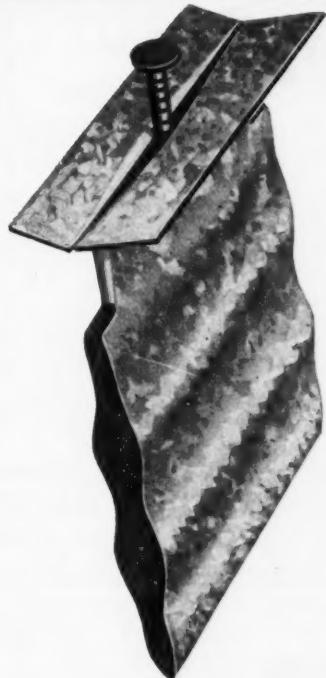
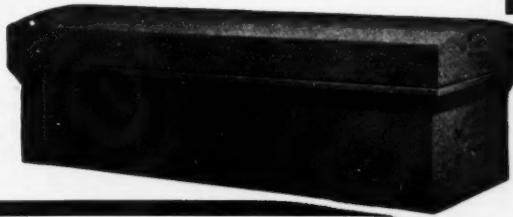
The AUTOMATIC SEALING VAULT

All that is necessary is a set of our Bessemer Steel Molds. Made adjustable for all standard size vaults. No experience—no large amount of capital. The profit on each vault is from \$15.00 to \$24.00. Now is a good time to start.

The First Step is to send for information. We'll furnish full details and particulars. Write Today.

The Automatic Sealing Vault Co.
36 East River St. - - - Peru, Ind.

The
Fin-
is hed
Vault



Bostwick Metal Wall Plug

Not the Cheapest per 1000, but the Most Economical to Use.

No chance for the nail to travel except in the plug.

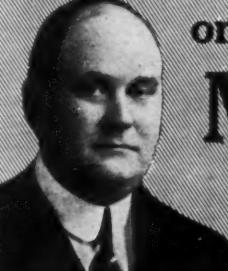
No waste of nails and greater waste of time—money.

Use Bostwick Metal Wall Plugs
Trouble Savers — Money Makers

The Bostwick Steel Lath Co.
Niles, Ohio

Save 50%

on Your Building
Material
Bill!



LET me send you our Building Material Catalog showing 8000 price bargains on building material and also our Plan Book showing views and floor plans of 50 modern Houses and Bungalows. They will prove you can build, remodel or repair for much less than you expected. We ship everything everywhere in the way of high grade lumber, flooring, roofing, doors, windows, storm sash, mouldings, porch work, screens, hotbeds, building hardware, paints, wallboard, plumbing, heating and water supply outfit, cement machinery and interior woodwork. *All at Wholesale Prices*
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BUFFETS

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Built-in Cases
for every
purpose are
shown in our
free catalog.



Our Big Free
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shows our
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This
Bookcase
COLONNADE
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8 ft. x 8 ft.
Yellow Pine

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Ornamental and Enduring Mullins Metal Tile Roofing

is ornamental, as well as weather-defying. With proper care, it is everlasting. Its first cost is almost its last cost. It is the one Metal Tile Roofing that is faultless, as all drawbacks from expansion and contraction have been eliminated. It is simple in construction, and when put on according to directions is guaranteed for years.

We also manufacture stock and special designs in Cornices, Building Fronts, Garlands, Modillions, Enriched Moldings, Capitals, Finials, Tympanum Panels, Faces, Fireproof Windows, and Sheet Metal Statuary. Also Ornamental Metal Stampings for Cornices. Special discounts to the Trade.

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214 Franklin Street Salem, Ohio, U. S. A.



Double Hung Style

WILLIS Metal Windows FOR Fireproof Construction

Frames and sash of hollow metal, glazed with wired glass. In all the standard types. Tested and approved by the Underwriters' Laboratories, Inc.

Architects and Contractors

Get our Special Catalog on "Fireproof Windows and Doors." It has 48 pages of information on this subject. No Builder should be without it. Costs you only a postage stamp.

WILLIS MFG. CO.
Galesburg, Illinois

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Lay It On the Dry Boards!

Bayonne is laid directly upon the dry boards. There is no troublesome and expensive setting in wet paint—no buckling, as with ordinary canvas. A handsome, perfectly smooth job is assured, at a smaller cost for laying.

This material is specially treated with a waterproof compound that enables it to withstand all sorts of weather and temperature changes without leaking or deterioration.

The unusual serviceability and attractiveness of Bayonne for porch floors and roofs, sleeping verandas, open air pavilions, etc., has led to its adoption by architects and builders for many important operations.

*Send for Sample Book "N" giving
prices and laying instructions*

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NEW YORK CITY

202-204 Market St.,
ST. LOUIS



DIAMOND HARD

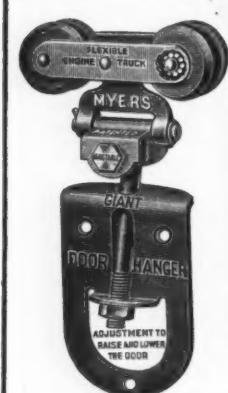
MAPLE FLOORING

Thoroughly kiln-dried, side and end matched, hollow backed, bored for blind nailing, and STEEL POLISHED. Guaranteed to give best results under hard continuous wear.

Do not be satisfied with ordinary flooring. You can get DIAMOND HARD MAPLE FLOORING.

You'll receive full value in wearing service and permanent finish.

Write us. We'll Tell You More.
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THE MYERS GIANT ADJUSTABLE TANDEM DOOR HANGER

for TUBULAR GIRDER TRACK is adjustable to and from the building, up or down as necessary. Has flexible engine truck with steel rollers revolving on steel roller bearings. The adjustable features prevent trouble from weather conditions or sagging of building. Storms, sleet or ice do not affect it, owing to complete protection afforded by the tubular track. Track and Hanger are constructed to carry and operate heavy doors easily.

This and other styles of Tubular and "Stayon" Door Hangers are shown in our Door Hanger Booklet. Copy mailed on request.

F. E. MYERS & BRO.
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This Pearson's Automatic SHINGLE NAILER WILL PAY FOR ITSELF ON FIRST JOB

Do your nailing fast—faster than ever before. You can use this Pearson's Nailer on any pitch roof. Wear mittens, gloves, etc. This "Hand Nailer" is the only Nailer—throw nails in by the handful—then start nailing. Nails easily driven through tin or quite heavy sheet iron.

These nailers are made in two sizes—The BLUE Nailer for 3d. common No. 14 gauge wire nails.

The RED Nailer for 3d galvanized No. 13 gauge 1 1/4-inch wire nails.

It will come right to your door, quick, by insured parcel post, all prepaid for only \$5.00.

IT MAKES GOOD.
PEARSON MFG. CO. - **ROBBINSDALE, MINN.**



Are You Going to Get the New Motion Picture Theatre in Your City?

New homes for the "movies" are going up by the thousands. Millions of dollars are being invested. Don't let this profitable business get past you.



will enable you to handle all of the difficult structural problems involved in this class of work, easily and profitably. Its flexibility enables you to take care of the most complicated friezes and ornamental work. Its unique construction assures you of a foundation that will endure forever. The plaster is firmly keyed to the wall, all waste of plaster is eliminated, while your workmen will tell you that the trowel work goes more easily and rapidly than ever before.

There are some interesting features of Kno-Burn which you should know at once. We can put you in a position to make every stucco job a profitable proposition and a permanent success. Our booklet No. 33 tells the whole story. A postal brings it. Send today.

North Western Expanded Metal Company, 903 Old Colony Building, Chicago, Ill.

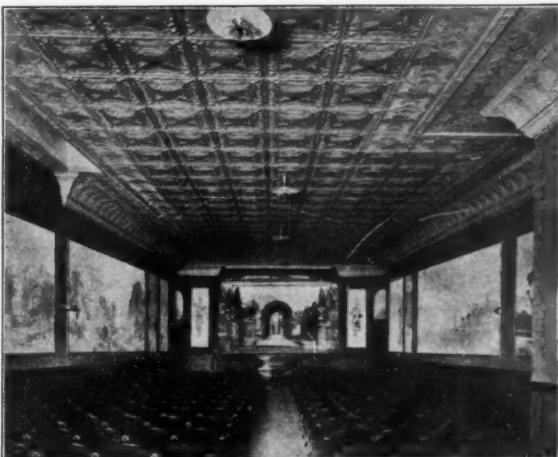
Northrop's Stamped Steel Ceilings



For the residence, the store, the church, school, etc. We have ceilings for all of them—and the best of their kind. Use incombustible material when possible.

Send us measures and diagrams of the rooms to be ceiled, so that we can advise you and estimate.

NORTHROP, COBURN & DODGE CO.
40 Cherry Street :: :: :: New York



Klauer's Steel Ceilings

Are the kind you want for the work you now have coming up.

Unexcelled as to designing and mechanical perfection, they are most economical as well as most desirable.

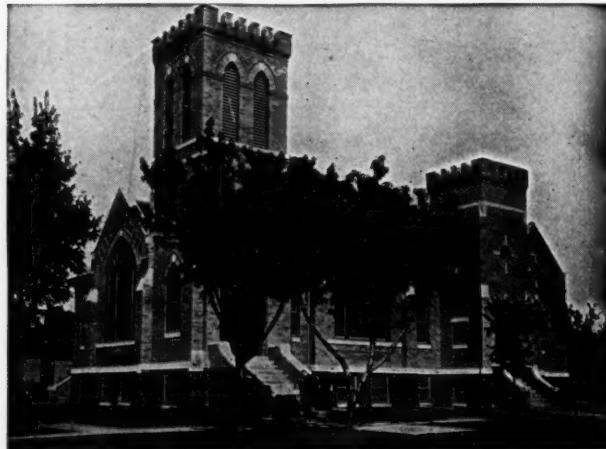
Get our complete catalog and let us figure on your requirements.

Klauer Manufacturing Co.
Dubuque, Iowa



Let me design your CHURCHES

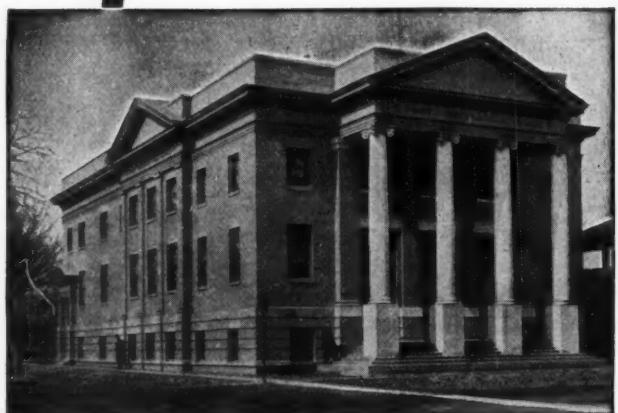
My experience in church work is valuable to you. My knowledge of church architecture assures your getting the most approved, up-to-date designs. The work I have done for hundreds of Builders, Contractors, and various Church Boards throughout the country proves that I can do satisfactory work for you. I can plan a church to meet your needs.



Presbyterian Church

Minden, Nebr

I CAN SAVE YOU MONEY



First Congregational Church

York, Nebr.

by furnishing plans and specifications at the lowest possible cost. Tell me what you need. Information is free. You pay me only for actual services. Let me show you what I can do for you. Fill out the coupon and mail it. You pay nothing in advance fees and you will not be obliged to give me the work unless I show you that I can do it better, quicker, and at a smaller cost than anyone else.

ALFRED W. WOODS,
—ARCHITECT—

LINCOLN

NEBRASKA

----- TEAR OFF THIS COUPON and MAIL -----

Alfred W. Woods, Architect,
Lincoln, Nebraska.

DEAR SIR:—

We propose building a church as per details given below. Please send us information as to what architectural service you can furnish us. It is understood that this information costs us nothing.

Proposed Cost.....

Name

Frame, Brick or Stone.....

Address

Denomination.....

Town and State.....

Seating Capacity.....

Size and Location of Lot.....



Stucco houses on Sprague Street, Akron, Ohio. A section of the Goodyear allotment on which Willis & Carley Co., contractors, erected over 100 Stucco houses, using Sykes' Self-Furring Metal Lath.

Do you know the Metal Lath constructed so that you need no Furring Strips? This saves you from 3 to 5 cts. a square yard — saves you money on Stucco work, on Over-coating, or on Interior Plaster Work.

Sykes' Self-Furring Metal Lath

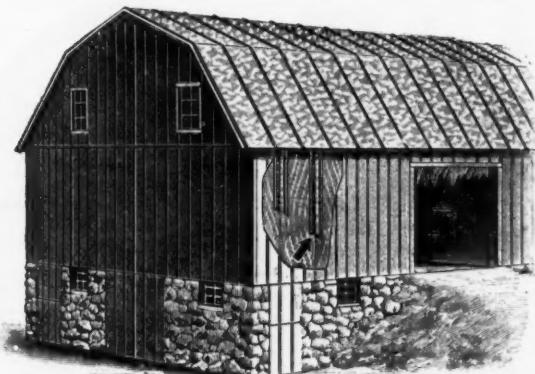
This Expanded Cup Lath is crimped so as to provide a perfect key for the mortar without the use of Furring Strips. It becomes thoroughly imbedded in the Stucco or Plaster — a true backbone of everlasting strength. Sykes' Metal Lath is cut with a wider strand than that of other makes — therefore when it is cut from the same gauge of metal it is HEAVIER, STRONGER, BETTER. Best for Stucco work, for overcoating and for plaster work. Keys perfectly; can't be applied wrong. Endorsed by architects, approved by U. S. Government for post office work.

Sykes Metal Lath & Roofing Co.
504 River Road



Get This Free Book

A set of Complete Specifications for Stucco on Metal Lath and a free sample of Sykes' Metal Lath sent free. This is of value to you. Write for it.



Metal Batten Strips FOR BARNs Practical---Economical

Made of galvanized steel. Will not warp or split. They allow for contraction and expansion.

Write for samples and prices.

MILWAUKEE CORRUGATING CO.
Branch at Kansas City, Mo. :: MILWAUKEE, WIS.

Spanish Tile



Address The Moeschl-Edwards Corrugating Co.



Write for Prices on
 Catalogue "S" showing a complete line of Ornamental Roofings mailed free to Architects, Contractors and Carpenters.
 Ceiling Columns Cornices Crosting Culverts Finials Garages Gutter
 Marquise Roofing Shingles Siding Skylights Spouting Tanks Ventilators

Covington, Kentucky

Goodell-Pratt's

Automatic Screw-Driver No. 111



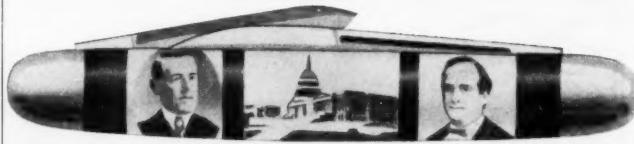
This Screw Driver is made stronger and heavier than most tools of this character so that it will drive large screws into hard wood. The slant angle of the spiral is 20°, giving more power than the ordinary tool of this type. It can be used as right or left hand, automatic or ratchet, or by moving the shifter to the star on the nickel-plated shell, it can be used as a plain screw driver.

1500 Tools
Catalog Free

Goodell - Pratt
Company

Toolsmiths

Greenfield, Mass., U.S.A.



Style D 11 Senior Senator, 2 Blades. Price \$1.20.

ARCHITECTS, CONTRACTORS, LUMBER-DEALERS

The Greatest Sales Stimulant Ever Offered

These beautiful high-grade pocket knives with your advertisement on, will surely land those contracts if one is presented along with your estimates and plans. Not like that cigar that goes up in smoke, and cheap novelties that are soon cast aside. This knife will be carried right in the pocket, year after year, retaining your ad., and will be brought to attention many times. Be prepared to get that Spring business. Write for prices on quantities at once. Catalogue upon request. We have the best paying agent's proposition in the United States. Exclusive territory guaranteed. Unexperienced shown how to earn big money. For full particulars, write Dept. E., The United Cutlery Company, Canton, O. (See editorial on page 142.)

AGENTS WANTED

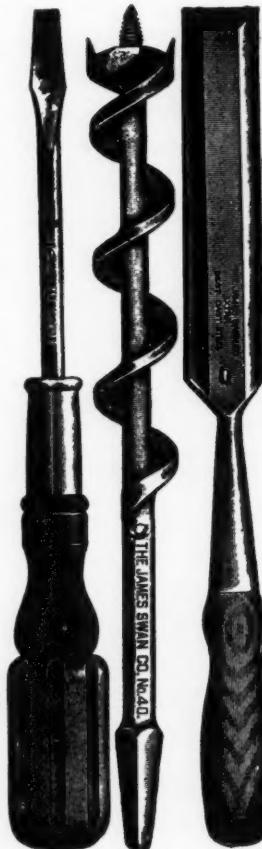
Reliable Carpenters, Builders and Material Men

To Make Big Money Taking Orders for Our **Made-to-Measure Fly Screens** and **Screen Doors** for Dwellings and Porches.

Write For Our Agency Proposition

Standard Shoulder Strip Method
Makes the Wire Drum Tight and Firm
—Cannot Sag or Pull Away.

Standard Screen Company
1848-1858 Hastings St. : : CHICAGO



When
you want
tools of any kind
— tools that you
can bank on to be
just the kind and qual-
ity you want them to
be, insist on the Swan
Trade Mark.



It's a plain guide to all that
is best in carpenters' tools
and your assurance that
you are dealing with an
old, reliable firm that
makes tools as good and
solid as its reputation.

ASK FOR CATALOG

The
JAMES SWAN CO.
Seymour,
Conn.



Don't Miss This Opportunity

We Want One Carpenter or Builder in Every Community to Demonstrate, Take Orders for and Apply Our EDWARDS METAL SPANISH TILE ROOFING on a Liberal Commission.

Here is a chance to build up an independent, profitable business for yourself right at home. Many carpenters are now devoting their entire time to selling our metal roofing. Others have made big profits simply devoting part of their time to selling and laying our Metal Spanish Tile.

Edwards Metal Spanish Tile

Is being advertised in the leading magazines and is now known to thousands of home builders and owners everywhere. Wherever it has been used it has made a decided "hit" because it shows off to good advantage on the roof and has numerous points of superiority over any other style of roofing.

Architects are specifying Edwards Metal Spanish Tile, for they know it will do away with roofing "troubles." Builders like it because of the finished appearance it gives any house on which it is used.

Our Metal Tile are stamped out of the highest quality Worcester terra plate in exact imitation of the most expensive Terra Cotta Spanish Tile. They come either "dip" painted or heavily galvanized size 10 x 14 inches. Our patented interlocking side lock makes it possible to make a perfectly moisture-proof roof without soldering. Edwards Metal Spanish Tile afford the fireproof advantages of Terra Cotta Tile, but are much lighter in weight, cost but a trifle more than ordinary roofing and will last a lifetime.

WRITE US TO-DAY ABOUT YOUR TERRITORY. Our business is growing so rapidly that it is necessary to have an agent in every community. The territory is going fast. One day's delay may mean that some one else will be given your territory. DON'T DELAY. WRITE TO-DAY FOR OUR SPECIAL AGENTS' PROPOSITION.

The Edwards Manufacturing Co.

"THE SHEET METAL FOLKS"

401-417 Eggleston Ave.

CINCINNATI, OHIO

THE WORLD'S LARGEST METAL ROOFING, METAL SHINGLES AND METAL CEILING MANUFACTURERS

NEW YORK OFFICE, 81-83 Fulton St.

BRANCH OFFICE and Warehouse, 1625-27 Pacific Ave. Dallas, Texas



Note the construction of patented interlocking device, protecting nail heads from weather and providing perfectly for expansion and contraction of the metal.

Building Books Absolutely Free

Postage Prepaid

Your Choice of Any One of Twenty Building and Plan Books

Write for Descriptive Circular Telling About Our Great FREE Offer

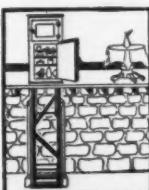
AMERICAN CARPENTER AND BUILDER
1827 Prairie Ave., CHICAGO

STORM Dumbwaiters and Hand Elevators

No stock sizes. Built to fit the place. Ask your hardware dealer and write us for catalog. Let us send you our new Catalog with Discounts.

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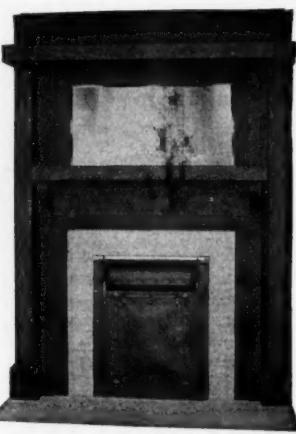


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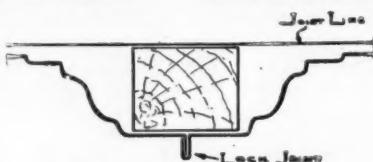
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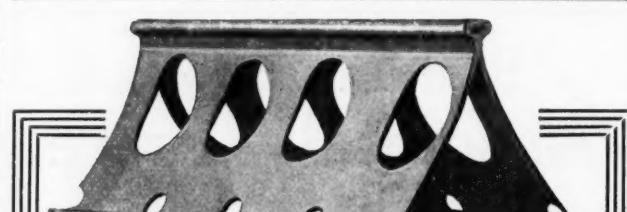
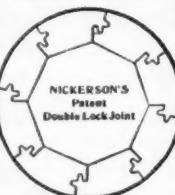
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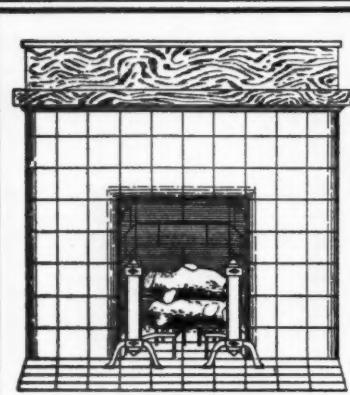


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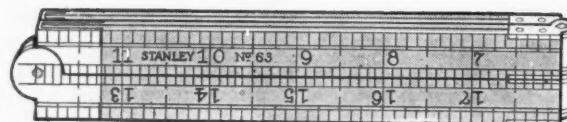
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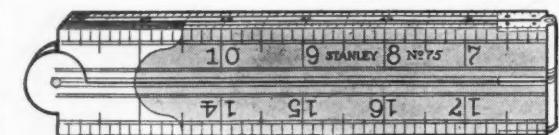
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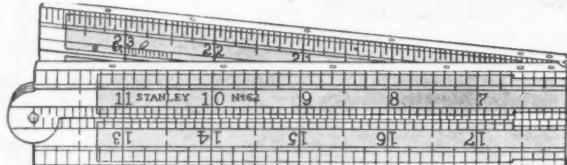
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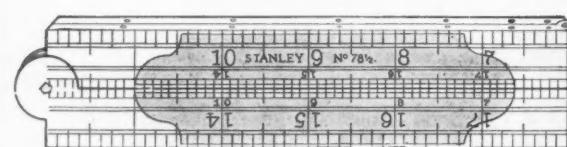
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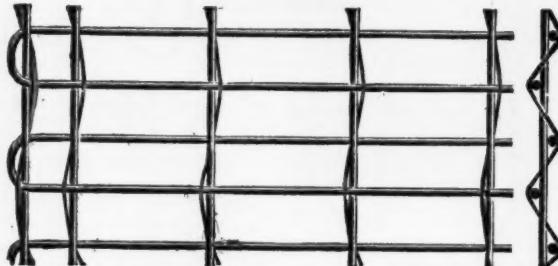
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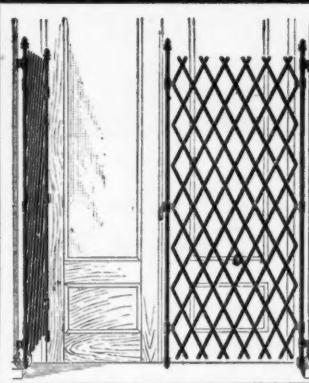
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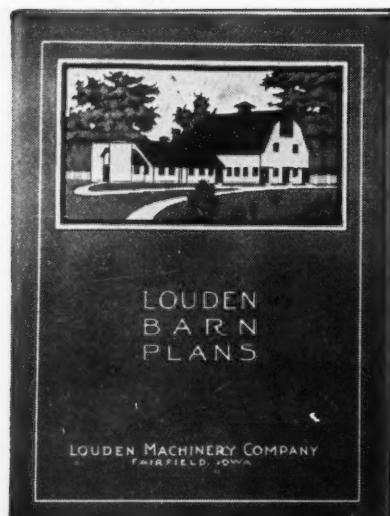
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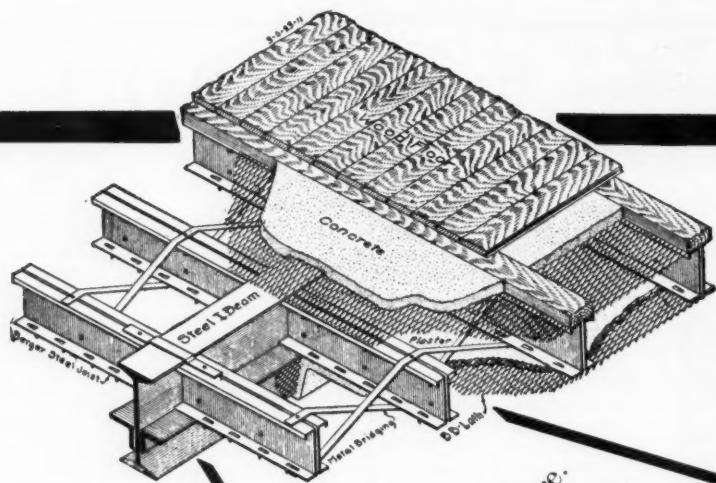
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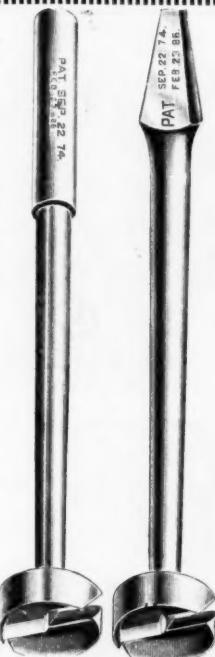
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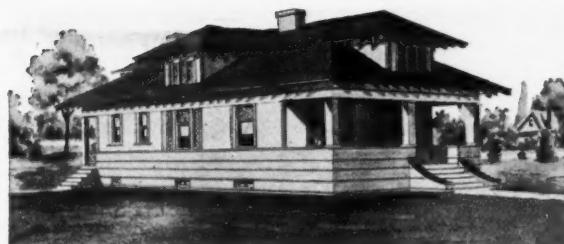
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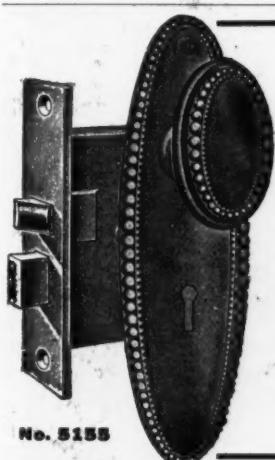
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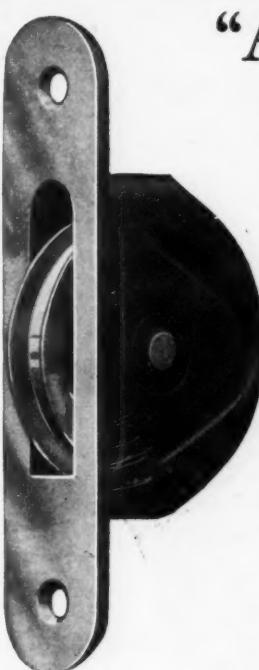
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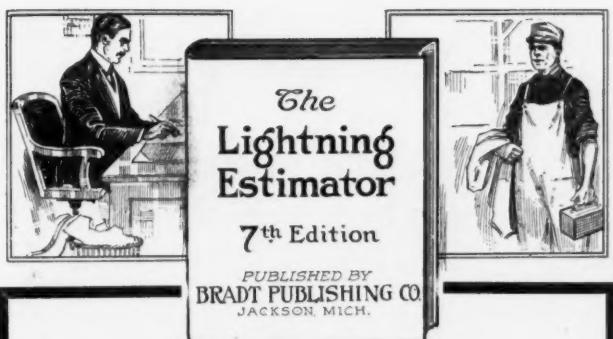
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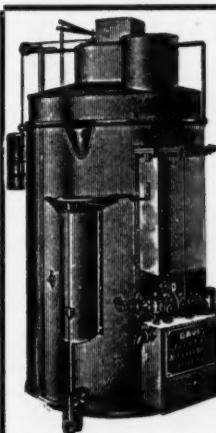
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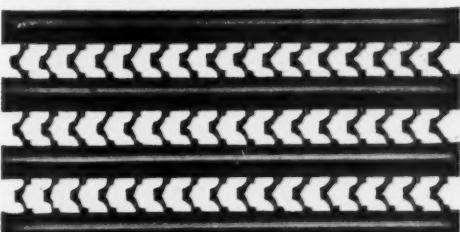


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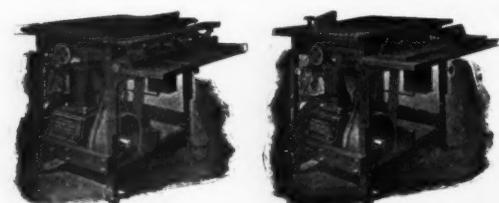
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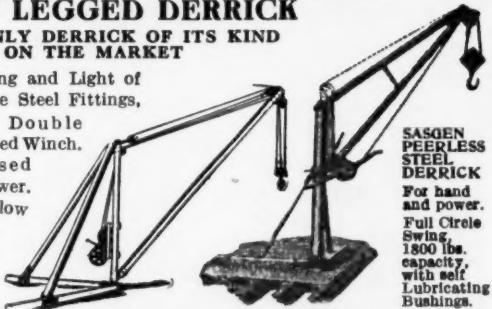
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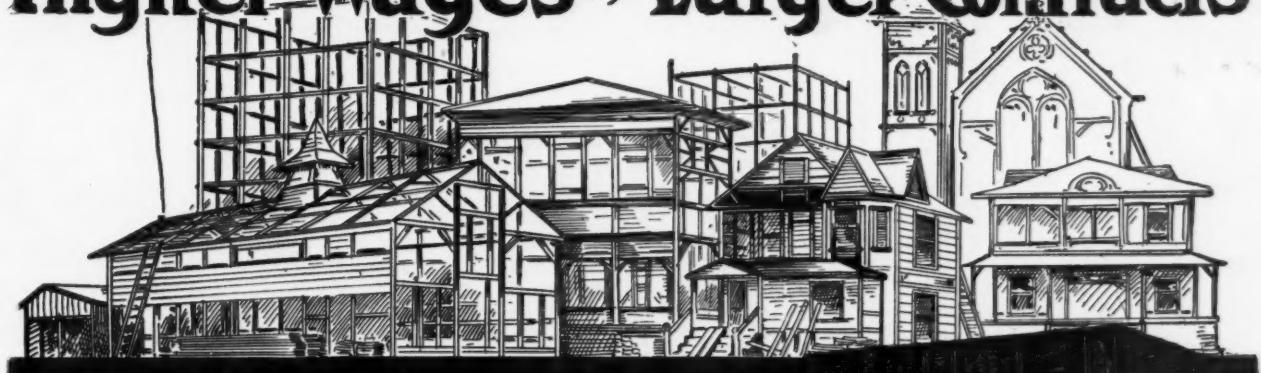
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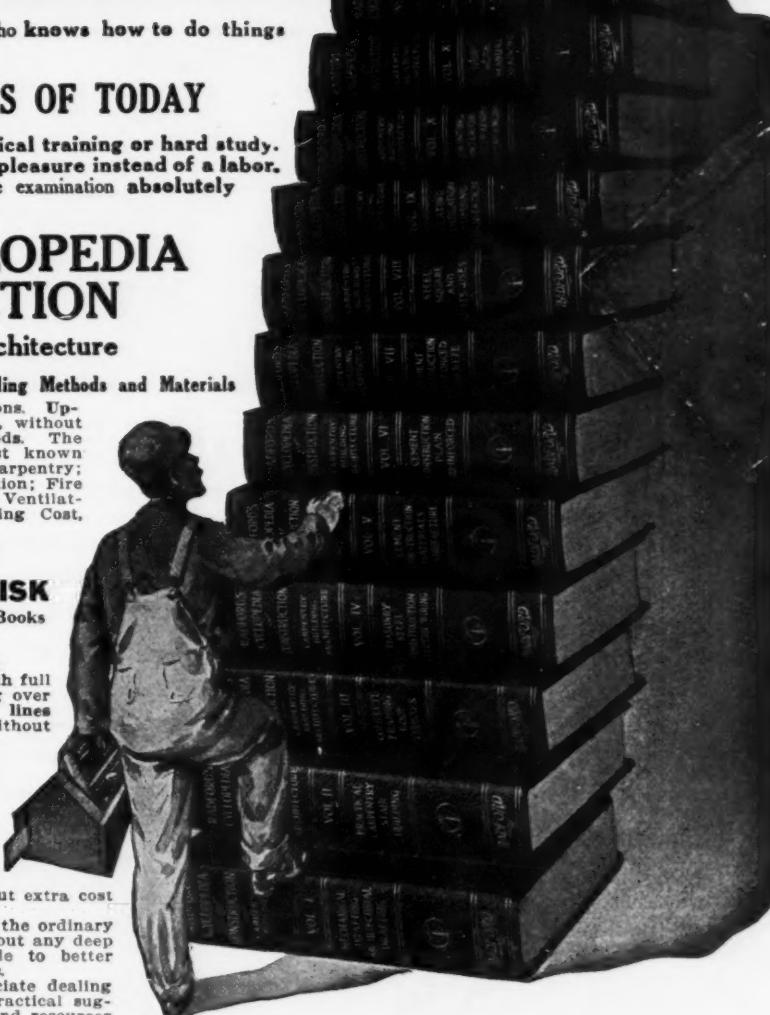
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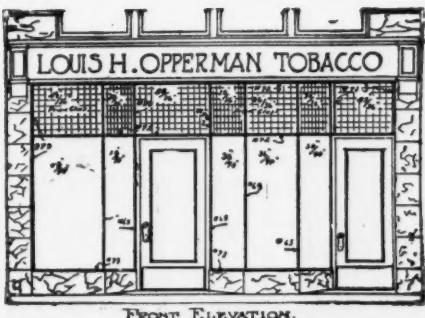
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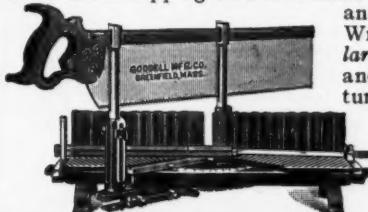
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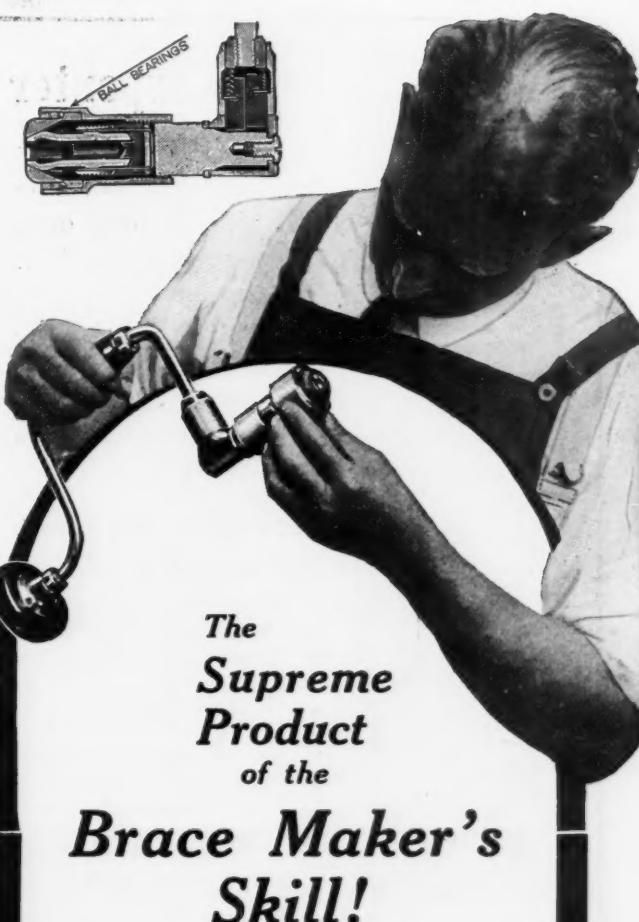
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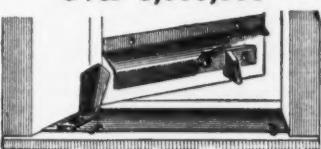
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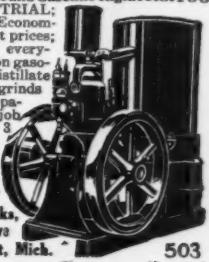
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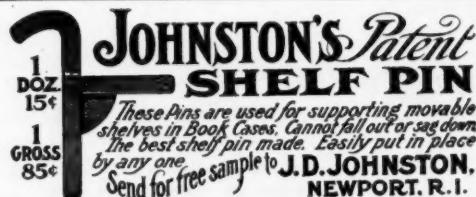
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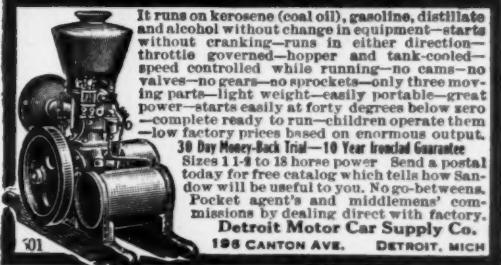
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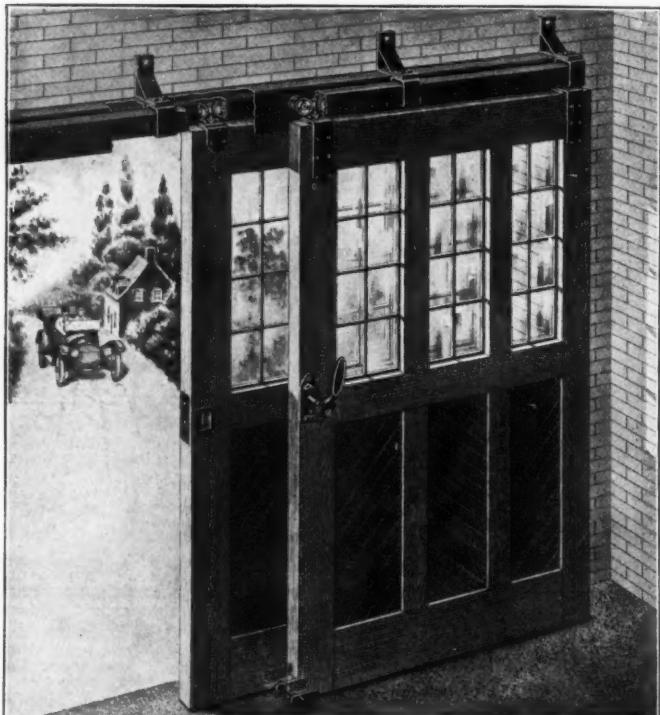
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Hardware
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- No. 259 R-W Parallel Track, No. 232 size, with weather strip.
- No. 525 R-W Faultless Lock—for locking to jamb.
- No. 516 R-W Parallel Door Bolt and Lock.
- No. 172 R-W Adjustable Parallel Door Floor Guide.

TRACK as shown above is assembled complete in sections to accommodate different size openings. Weather strip extends below top of door which makes equipment absolutely storm proof. The efficiency and durability of this equipment has been demonstrated by its successful use on garages in different parts of the country.

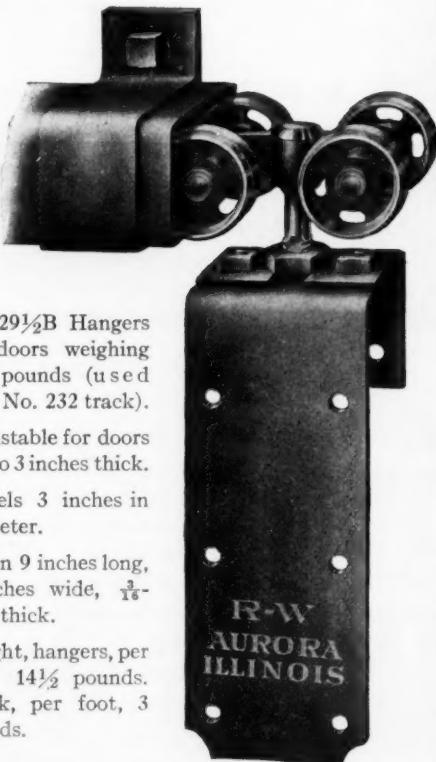
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AURORA, ILL. U.S.A.

"A hanger for any door that slides."



No. 29½B Hangers
for doors weighing
600 pounds (used
with No. 232 track).

Adjustable for doors
2½ to 3 inches thick.

Wheels 3 inches in
diameter.

Apron 9 inches long,
4 inches wide, $\frac{3}{16}$
inch thick.

Weight, hangers, per
pair, 14½ pounds.
Track, per foot, 3
pounds.

R-W
AURORA
ILLINOIS

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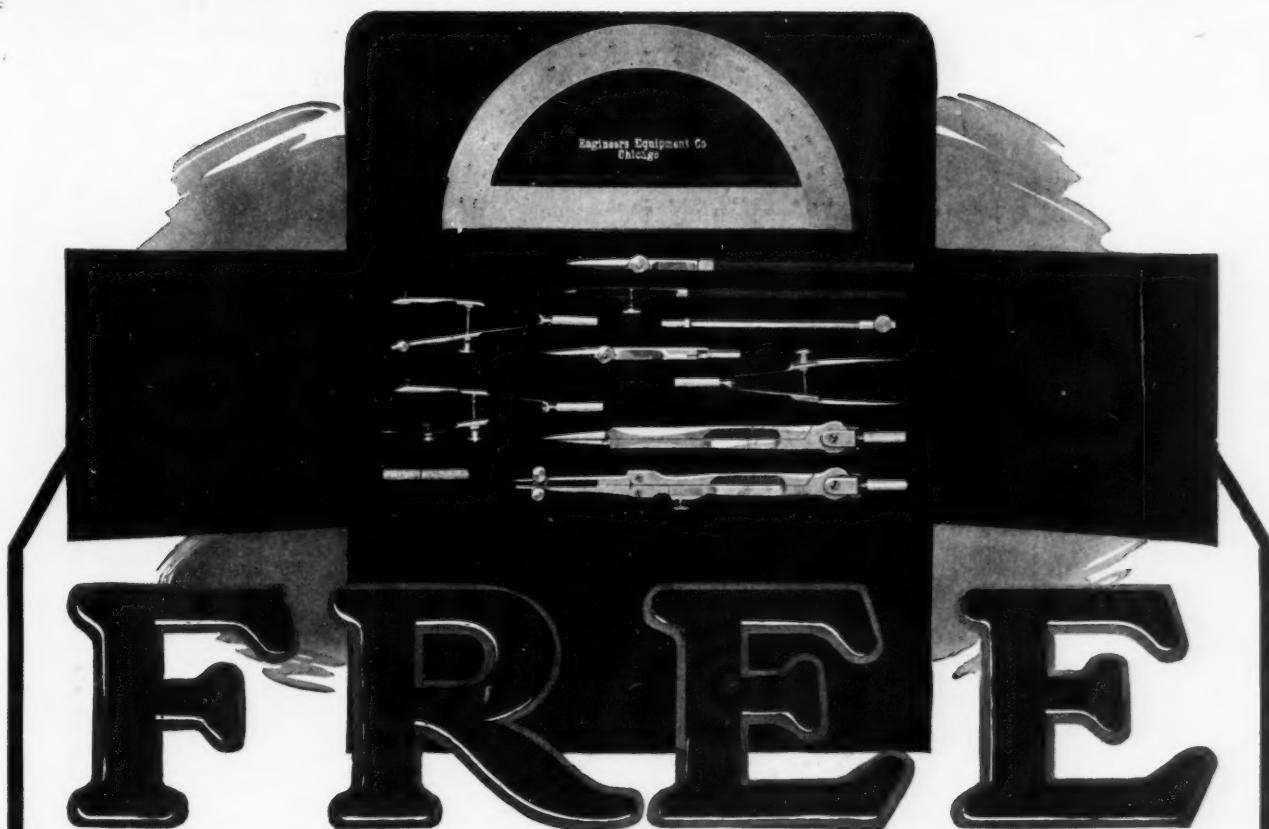
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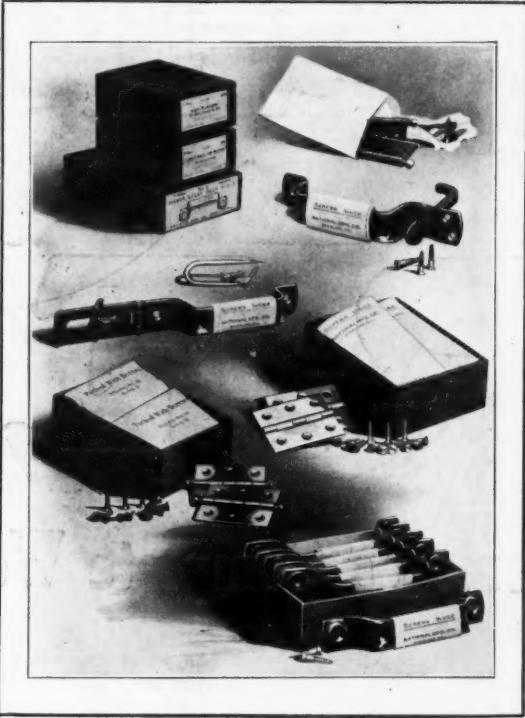
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